Sustainable development under the conditions of European integration. Part II

Bele, Darko (Ed.); Weis, Lidija (Ed.); Maher, Nevenka (Ed.)

Veröffentlichungsversion / Published Version
Sammelwerk / collection

Empfohlene Zitierung / Suggested Citation:
Bele, D., Weis, L., & Maher, N. (Eds.). (2019). *Sustainable development under the conditions of European integration. Part II*. Ljubljana: Ljubljana School of Business. https://nbn-resolving.org/urn:nbn:de:0168-ssoar-62814-8

LJUBLJANA SCHOOL OF BUSINESS

SUSTAINABLE DEVELOPMENT UNDER THE CONDITIONS OF EUROPEAN INTEGRATION

Collective monograph

Part II

Ljubljana, Slovenia
2019

CIP - Kataložni zapis o publikacijiNarodna in univerzitetna knjižnica, Ljubljana
502.131.1:061.1EU(075.8)

SUSTAINABLE development under the conditions of European integration: collective monograph / [editorial board Darko Bele, Lidija Weis, Nevenka Maher]. - Ljubljana: VŠPV, Visoka šola za poslovne vede = Ljubljana School of Business, 2019

ISBN 978-961-91021-5-2 (zv. 1)
ISBN 978-961-91021-6-9 (zv. 2)
1. Bele, Darko
COBISS.SI-ID 300136960

This collective monograph offers the description of sustainable development in the condition of European integration. The authors of individual chapters have chosen such point of view for the topic which they considered as the most important and specific for their field of study using the methods of logical and semantic analysis of concepts, the method of reflection, textual reconstruction and comparative analysis. The theoretical and applied problems of sustainable development in the condition of European integration are investigated in the context of economics, education, cultural, politics and law.

Publisher: Ljubljana School of Business
Tržaška cesta 42, 1000 Ljubljana
info@vspv.si

Authors are responsible for the content and accuracy.

CONTENTS

Chapter 1. EDUCATION, PEDAGOGY AND PHILOLOGY

Chapter 2. PHILOSOPHY, JOURNALISM AND LAW

Chapter 3. MANAGEMENT, ECONOMICS AND SERVICE

Chapter 1. EDUCATION, PEDAGOGY AND PHILOLOGY

Volodymyr Kravets
Doctor of Pedagogical Sciences, Professor of Pedagogical Department,
Ternopil Volodymyr Hnatiuk National Pedagogical University,
orcid.org/0000-0001-7537-6545
Svitlana Kravets
Ph.D in Philosophy Sciences,
Ternopil Volodymyr Hnatiuk National Pedagogical University,
Ternopil, Ukraine
orcid.org/0000-0003-4502-0921

THE PROBLEMS OF SEXUAL EDUCATION OF PUPILS IN FOREIGN PEDAGOGY AT THE END OF THE XX – BEGINNING OF THE XXI CENTURIES

Abstract. *In the article, a comparative analysis of sexual education in the leading world countries is made. Four main periods of sexual education genesis have been distinguished, their features and characteristic emphases in the formation of students' competences during each of these periods have been analyzed. The importance of sexual revolution in changing the approaches to solving the problems of sexual education in educational institutions is emphasized. Different approaches to the content, forms and technologies of sexual education, from abstinence from sexual relations before marriage to radical sexual education with the domination of sexual socialization, have been singled out. The key problem in the content of sexual education development, namely the identification of the relationship between the study of the issues of sexuality and the idea of teaching the abstinence from premarital sexual contacts, have been determined. The necessity of using certain elements of foreign experience in educational institutions of Ukraine has been substantiated.*

JEL Classifacation: I23

Introduction.

By the end of the twentieth century, significant changes took place on the geographical and political world map. A united Germany was created, the Soviet Union, Czechoslovakia and Yugoslavia collapsed, resulting in more than 20 new independent states appearing on the European map, expanding the European Union and NATO. Society started its next phase of post-industrial development - informational. Computers, mobile phones, the Internet, social networks, etc. appeared. The feminist movement, the decrease in the birth rate, the liberalization of sexual morals, the reduction of the controlling role of the family, the reduction of the role of religious prohibitions, the reduction of fear of unwanted pregnancy and sexually transmitted diseases contributed to the intensification of female sexual activity, *the emancipation of female sexuality.* As a result of the sexual revolution of the 1960-1970s, the standards of sexual morality gradually changed in society, the social control of pre-marital behavior of young people gradually changed, giving young people the opportunity to independently determine the appropriateness of entering into sexual relations etc. Educated young people did not perceive the existing values that their parents followed, which influenced the perception of the traditional model of interpersonal relationships.

The old morality, which reduced sexual relations to marriage, was viewed by many liberally-minded Americans and Europeans not only as obsolete but also untrue. The propaganda of the values of the "sexual revolution" has led to the separation of youth from the traditional wisdom and culture of humanity, from the experience of adults, enabling them to learn from their own bitter experience, pain and mistakes. This was accompanied by a worldwide AIDS problem.

1. Ways of implementing sexual education in countries around the world.

Today, in Europe and in the whole world, there is a clear shift in the system of human values:

– there is a legalization of same-sex love, propagation of **same-sex families**, that is, a homosexual family in the world is normal, and the traditional family where mother and dad are - is a relic of the past;

– with the separation of sexuality and reproduction, justification and normalization of non-reproductive sexuality (masturbation, oral sex, other sexual techniques that do not lead to fertilization) took place;

– the gender impersonation of a child, or the so-called "eradication of gender stereotypes". In many, above all European countries, along with traditional male and female, a third, an *indefinite gender*, appears;

– the possibility of adoption of children by same-sex married couples: more often abroad there are children's fairy tales about the boy and his dad, who has a close friend who then becomes his second father or a princess who throws away all the admirers and eventually she lives with her girlfriend;

– many young people become participants in the child-free movement (child-free - free from children);

– leaflets of the German Ministry for Family Affairs call on parents to do a sexual massage for children aged from 1 to 3 years;

– another creation of this federal center is a book with songs for children from 4 years old, which has texts that stimulate masturbation;

– immediately after legalizing the adoption of children by same-sex couples, in Europe today the legalization of the incest is being discussed and presented it as a European "gender norm". The norm is an intimate between father and daughter, mother and son, brother and sister, as well as all the relatives, including blood relatives. Legal incest in Sweden, Denmark and Switzerland is actively promoted;

– in the British Journal of Medical Ethics, in the article "Postnatal abortion. Why the child has to live? "On February 23, 2012 by the authors of Alberto Jubilini and Francesca Minerva, the arguments are based on the right of parents to kill their young children (up to two years old): for two years, the person has not yet been formed, and this is not a murder, but a "postpartum abortion."

On this backdrop, individualization and privatization of sexuality, the transition from external social control to individual self-regulation take place. Democratic society refuses strict regulation and unification of sexual life, preferring pluralism and tolerance. Sex ceases to be just an instrument for the continuation of the family; now it has other tasks - from satisfaction to higher self-esteem.

All of the foregoing has led to serious social cataclysms related to interpersonal, marital, and family relationships. For example, at the end of the twentieth century – at the beginning of the 21st century, the birth rate among girls aged 15-19 remained high in Great Britain (30 per 1000). The United Kingdom has the highest adolescent pregnancy rate in Europe. The mother of every tenth child born in England is a teenager. The study also found that 70% of women who gave birth when they were adolescents experienced domestic violence.

Among the young Britons who reported sexual intercourse in adolescence, 80% did not use any form of contraception, and half of those under 16 years of age and one third of those aged from 16 to 19 years did not use any contraceptive during their first sexual intercourse. 10% of British teenage mothers are married. Recent studies by the London analyst *Data Monitor* have shown that in Britain among adolescents, only 12% of girls and 8% of boys are afraid of being infected with AIDS, compared with 35% and 28% in 1993. The same applies to the vast majority of students in European countries.

According to the ISSP (International Social Studies Program) in Germany, more than 7 000 minor girls gave birth to a child in 2005, which is 45% more than in previous years. During the same period, the number of minor mothers who have not reached the age of 14 has doubled from 77 to 161. In addition, the number of abortions in adolescents has increased: from 2004 to 2005 to one-fifth, from 5 763 to 6 909. In addition, the number of abortions increased by 20% for girls younger than 14 years of age - from 574 to 696.

The analysis of sexual education in other European and the world countries shows a low level of awareness of the school youth in matters of sex and interpersonal relationships. Therefore, today it is required to take serious state measures in the vast majority of the world countries, aimed at radical improvement of the theoretical and practical solutions to the problem of sexual education, namely: the adoption within the United Nations of the common standards for sexual education; holding of international conferences, symposiums on methodology and methods of sexology preparation of pupils taking into account national peculiarities of the world countries; organization of the proper training of sexologists in universities of the world, ready for the sexual education of pupils of all ages; introduction of a system for monitoring quality and efficiency of school-based sexual education for all countries, oriented to world standards; the introduction in all the countries the unified guidelines for the sexual education of pupils of all ages, which should be consistent with a single concept of development.

Taking into account the decline in the age of sexual initiation of youth, the emergence of AIDS, the dynamic development of youth sexuality, in 1986 the World Health Organization (WHO) developed the "Standards of Information on Sexual Life", which focused on the following settings:

1. Information contributes to a social climate characterized by tolerance, openness and respect for sexuality, different lifestyles.

2. It promotes awareness of gender identity and gender roles and respect for gender diversity.

3. Sexual awareness enables people to make reasoned decisions and, accordingly, to form their sexual behavior.

4. Sex education contributes to the awareness and knowledge of the human body, its functions, especially sexuality.

5. It teaches the pupils the basics of personal hygiene, promotes the formation of psychosexual maturity, explains them about the meaning and consequences of sexual initiation.

6. Information about sexuality tells pupils about sexual and gender identity, teaches them how to express their feelings and needs, and feel sexuality with pleasure.

7. Sex education helps to prevent STDs, HIV / AIDS, sexual coercion, provides adequate and substantiated information on the physical, cognitive, social, emotional and cultural aspects of sexuality.

8. Awareness counteracts sexual complexes, fears and phobia.

9. It stimulates the reflection on sexuality and different norms and values from the point of view of human rights, so that it develops one's own critical attitude to sexual problems, provides an opportunity to communicate about sexuality, emotions and relationships, and supports the development of the necessary language competence.

10. Develops the need for knowledge about biological, psychological, and social changes at different stages of human development.

The "Standards for Sexual Education in Europe" adopted by the European Union in 2010 in Cologne, Germany, launched the creation of a normative framework for sexual education in the EU countries and should promote the development of a coherent system of sexual education and the provision of children and youth with objective, scientifically reliable information about all aspects of sexuality. In general, the document aims to promote sexual health and to develop or adapt sex education programs in different countries at different levels of development and training, since gender concepts, sexuality, sexual health and human rights are treated differently in different countries and cultures.

Today there is growing international interest in the introduction of sexual education of school youth in the world countries. A recent study of its production in 38 countries of the world on all continents has shown that most governments are positively solving this problem, although different cultures have different emphasis, different content and duration of sexual education programs.

In some countries, programs are implemented through public schools (most EU countries, Japan, Taiwan), others through communities (Australia, UK, South Korea, Israel), and through social media (for example, text messages on HIV / AIDS in Nigeria) etc. It should be noted that sexual education in the vast majority of analyzed educational systems (Australia, Canada, USA, Great Britain, Germany, France, etc.) is conducted in secondary schools through developed state or regional programs. Among the most famous and effective programs of sexual education are the following: "Sexual education and adaptation to life in interpersonal relationships", "Living together" - in Sweden; "Preparation for family life" - in Japan; "Education for family life" - in Poland; "Building relationships" - in the United States of America; "Fundamentals of Pedagogy of Sexual Development and School" - in Switzerland; "Education for marriage and parenthood" - in Slovakia; "Fundamentals of Relationships and Sexual Education" - in Malta; "Skills of Life" - in Iceland and so on.

The introduction of sexual education in schools occurred during the last decades of the XX and first decade of the XXI century - first in France, the United Kingdom and some other countries, and later in Southern Europe, in particular in Portugal and Spain. Even in Ireland, a country where there was a strong opposition from religious organizations to a certain extent, sexual education was a compulsory subject in elementary and secondary schools at the beginning of the 21st century. Only in a few Member States of the European Union, especially in the countries of Southern Europe, experts have found that sex education is still absent in school programs. In Central and Eastern Europe, sexual education began to emerge from the moment of the expansion of the socialist camp.

If to look at the European region, sexual education is mandatory in Austria, Belgium, Greece, Denmark, Estonia, Iceland, Ireland, Latvia, Luxembourg, the Netherlands, Germany, Norway, Portugal, Romania, Slovakia, Finland, France, Czech Republic, Sweden. Optional sexual education is offered in Bulgaria, the United Kingdom, Spain, Italy, Cyprus, Lithuania, and Poland. In North America (USA, Canada), as well as in Australia, everything depends on the laws of the state or province. In Asia, South America and Africa, the introduction of sexual education is in its infancy.

Studying the state of sexual education in foreign countries, we concluded that the age from which it begins, also varies considerably. Thus, in Portugal, it starts to be taught from 5 years, in Belgium, France, Sweden - 6, in the Czech Republic, the United Kingdom, Finland - 7, and in Spain, Lithuania and Cyprus - from 14 years. Some of the parents have a negative attitude to the sexual education of preschool children. Although it's not bad that a child is already at an early age to know where the children come from, and parents will not have to break their head and look for the right words to explain to the child such a difficult subject. It's even better for competent people - educators to do this professionally. Expert opinion: sex education should correspond to the age and stage of development of the child, considering the same topics at different ages, and in the process of maturation they are studied more thoroughly (Camilleri, 2013; Molina, Torrivilla 2011; Rogow, Haberland 2009).

It is also worth noting that the definition of sex education in different countries uses different names (which have also the differences in the content of the courses themselves) - from training students to family life or training their basic life skills to study the basis of relationships, including between the sexes. Sexual education is based in Austria, Bulgaria, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Italy, Lithuania, Norway, Portugal, Spain, sex education with a focus on relationships - in Belgium, Cyprus, Ireland, Luxembourg, Sweden and Great Britain, with emphasis on preparing for family life - in Romania, Poland, Slovakia, other accents besides sexual issues (for example, healthy lifestyle) are taught in Estonia, Latvia and the Netherlands. In Austria, Belgium, the UK, Greece, Denmark, Estonia, Iceland, Latvia, Luxembourg, Germany, Norway, Portugal, Slovakia, Finland, France, the Czech Republic, Sweden, in educational institutions they teach in accordance with national standards for sexual education, but in Bulgaria, Cyprus, Romania, Ireland, Italy, Lithuania, the Netherlands, Poland, Spain, they simply do not such.

In the vast majority of foreign countries, the sexual education course has been included into biology as part of it. The main goals put forward by the creators of the course were reducing the risk of early pregnancy and infection with sexually transmitted diseases (through familiarization with contraception), that is, getting to know human sexuality, often even outside the context of family and marriage. It is no coincidence that the term "sexual education" includes such topics as sexual anatomy, reproductive rights, sexuality, sexual relations, reproductive health, emotional relationships, reproductive rights and responsibilities, retention, contraception and other aspects of human sexuality. The psychological, social and ethical components of sexuality often go unnoticed by school courses.

Traditionally, sexual education in European countries focuses on *potential sexual risks*, such as unplanned pregnancies and STDs. This negative focus often frightens children and youth. For example, in the course of "sexual education" most European countries practically do not include information on the construction of a healthy marriage and a strong family (heterosexual). On the other hand, children are widely provided with information on the family life of homosexual couples. In a number of countries, sexual education includes information on homosexual relationships along with or even in a priority relation to heterosexual ones (such as in the Netherlands and Germany).

Experts from the European Union, based on the fact that the subject of sexual education is unequal in European countries they consider appropriate its multidisciplinary character. However sometimes sexual education is studied as a separate subject, but usually its elements are integrated into other subjects (biology, civic education, social orientation, health care, philosophy, religion, linguistic subjects or physical training).

It is positive that, unlike the existing practice of Denmark, the Netherlands, Sweden and other countries where the content of sexual education is not denoted as marital and family relations, the adopted Standards are oriented towards Christian norms and values with a clearly expressed orientation on marriage and family (Medero, 2009; Vandenbroucke, 2009; Weaver, et al., 2012).

Interstate comparisons have allowed us to highlight the general factors contributing to the successful implementation of sexual education. Including:

– Sexual education does not lead to increased sexual activity, risky sexual behavior or sexually transmitted diseases, and HIV infection. On the contrary, the study of European experience has shown that sexual education of schoolchildren can be very effective in reducing the prevalence of risk behaviors, and moreover, it can lead to postponement of sexual activity and a decrease in the number of sexual partners among young people.

– A sexual education program can be considered successful if it has one or more of the following outcomes: delaying the moment of sexual activity; reduce the number of unprotected sex; development of contraceptive use skills.

– Sexual socialization can only be successful if gender issues are viewed and discussed openly as a positive, integrative part of health.

– Youth, including the school youth should know about sexuality not only in terms of risks, but also in terms of its potential, in order to develop a positive and responsible attitude in this field, to make a reasonable choice in their understanding of their personal lives, relationships with others, and to form one's own assumption about marriage and family.

– Reconciliation of various political and religious views, involving a wide range of social movements in the process of implementing sexual education.

– An important role in the education of sexuality is played by the media. Their attitude to this problem can be varied depending on the particular country. In some countries, mainly in Scandinavia, the media is a source of support and information on sex. In Denmark, national radio and television companies provide free live time for sex education programs. In other countries, such as the UK, sex issues are presented with a great deal of sensation that has a negative impact on the sexual education of young people.

– Efficiency requires a comprehensive approach so that sexual education programs are not seen in isolation from other issues but have been an important component of wider initiatives aimed at improving the health and well-being of young people.

– Sex education programs should be adapted to the specific needs and realities of the country concerned.

– There are programs that are particularly popular and effective in the world, which simultaneously hold back sexual activity and promote the use of condoms or contraceptives.

– Gender-oriented programs are much more effective than programs that ignore them.

– It is important to follow a differentiated approach, since in many countries a large group of people is made up of immigrants with their own, different from the host country, cultural and religious traditions.

– Sexual education should not be a temporary campaign; continuous work is needed in this direction; progress made during the period of its implementation does not guarantee further progress if programs are closed.

– The evolution of moral and ethical values in many European countries (Germany, the Netherlands, Sweden, Belgium and others) is clearly depended on a phenomenon such as massive break of the population with traditional religious values. Every year many thousands of people leave the Catholic and Protestant churches. Even the exclusively liberal policy and position of the Protestant Church, which implies, for example, women's priesthood, divorce of clerics, homosexual marriages, cannot stop the process of mass exodus from the church (this phenomenon in the scientific literature is called "the European ethno-religious renaissance ").

2. Various approaches to the content and organization of sexual education

Analysis of sexual education in the leading countries of the world gives grounds to distinguish between different approaches to its content, forms and technologies:

1. Abstinent sexual education, based on abstinence from sexual relations to marriage, as the only solution for solving sexual problems. Such a conservative approach is typical for Italy, Ireland, the Catholic lands of Germany, the leading countries of Asia - China and Japan, and was popular at the end of the twentieth century in many states of the United States, where they were united under the single title Title X ("Postponing sex","How to reduce risk», «Skills and abilities for life», «Be proud! Be responsible!», «Know the truth about AIDS"). Such programs do not contain information on contraception, pregnancy prevention, sexually transmitted diseases and other practical aspects of the problem. Their implementation undoubtedly yielded results, but getting acquainted with them showed that there was a lot of false, distorted information, incorrect recommendations, "horror stories": abortions lead to suicides or infertility; half homosexuals carry HIV infection; condoms do not prevent HIV in 30% of cases; touch to the genital can lead to pregnancy; HIV can be transmitted through sweat and tears, and so on. That is, it can be stated that such programs largely misinformed the youth, giving mostly unscientific knowledge about sexual life.

2. Another form of organization of sexual education abroad is the combination of abstinent and procontraceptive approaches. The argument is made that teaching contraceptives does not hurt those who refrain from sexual intercourse, but will help sexually active people. Such programs are often referred to as "integrated sexual education" programs. Proponents of such an approach believe that sexual education should become a means of intimidating young people with sexually transmitted diseases. D. Kirbi at the end of the twentieth century proved that programs not only encouraged adolescents not to rush to the beginning of their sexual life, but also taught them rules of safe sex, much more effective than those who promoted only sexual abstinence (Kirbi, 1984). In the UK, 14-18 year-old schoolchildren are taught the ability to postpone sexual intercourse until maturity - not before marriage - but to maturity. They are simply taught the "idea of expediency." Recommendations for abortion and the avoidance of consequences associated with it are important.

3. For the third form of sex education of schoolchildren is usually used an approach based on the forming of a character who tries to raise personal and social responsibility and gives young people the opportunity to see the impact their relationship with sexuality has on other people's lives. Particularly popular were programs where the main emphasis is on the ability to control sexual desire, to strengthen the belief in controlling sexual desire, perhaps conviction that the preservation of sexuality for marriage is moral value. Particularly popular were the programs where the main emphasis was on the forming of the ability to control sexual desire, to strengthen the belief in possibility of controlling sexual desire, conviction that the preservation of sexuality for marriage is moral value. Well-known German sex pedagogue W. Foerster in his work "Sex Ethics and Sexual Pedagogy" convinced that it was not enough to protect pupils from sexuality, since early childhood it was necessary to teach children *to restrain their instincts and bring up the willpower (to fast, get up early, abandon their favorite games , to despise the pain) "* (Foerster,1952).

4. The fourth form of sex education in the world countries (Germany, Great Britain, Poland, a number of US states) - the so-called comprehensive sexual education, which broadens the framework of the previous approach and is based on a positive attitude towards sexual behavior, balanced information on potential dangers and harmful consequences of this behavior. In this approach, emphasis is placed on the formation of the sexual values of a young person. It is about the fact that the young person must live in harmony with his/her sexuality, learn how to make decisions and learn communication skills, which allow developing a more responsible approach to sexual behavior and relationships. This approach is characterized by discussion of the medical and hygienic aspects of sexual education, such as the causes of sexually transmitted diseases, female and male reproductive organs, pregnancy prevention, and the harmfulness of abortions. Due to such biological problems, the material on contraception is introduced and the main strategy of the program is the formation of the skills of compulsory use of contraceptives and the liberal attitude of students to the sexual behavior of other people. Some schools in the Netherlands, Belgium, Denmark, not only provide information on contraception, but also provide contraceptives to adolescents on a confidential basis. In schools in Finland, for example, 15-year-old adolescents are issued a special "introductory sexual package", which includes an informative brochure, a cartoon about the history of love and a condom.

5. The most radical approach to sexual education is based on the idea of the dominant significance of sexual socialization. It is typical for Nordic countries, especially for Scandinavia, for France at the end of the twentieth century. Proponents of this trend in the content of sexual education include: information on different ways of sexual contacts, information about conception, contraceptives, abortion, sexually transmitted diseases. The most important difference between the Finnish teachers and their American and many European colleagues is the lack of special care about sexual content. The Netherlands are a bright representative of those countries where sexual education of young people is virtually reduced to its sexual socialization.

The typical feature of the Dutch model is that young people are not said how and what to do, but rather encourage the individual to think in advance what he / she wants, and develop the necessary communication skills and the preservation of personal boundaries.

According to many experts, the radicalized version of sexual education programs is not the best option for children: it promotes the adoption and study of various sexual orientations and gender identity (homosexuality); increases the risk of abnormal sexual behavior (including anal and oral sex) and convinces them to be safe; emphasizes sexual pleasure; promotes abortion as both safe and without consequences; encourages children to have sexual experiments with persons of their own or opposite sex; argues that access to "comprehensive sexual education" is a human right; teaches children and young people that they are sexual from birth; promotes and offers condoms for children; promotes disrespect for parents, religious and cultural values; promotes sexual counseling, provision of information or services to minors without the consent of parents; incites children to stand up for their "sexual rights" in laws and politics.

Thus, the key issue in developing the content of sexual education remains, first and foremost, *determining the relationship between the study of sexuality issues and the idea of learning to abstain from premarital sexual intercourse*. In addition, it should be noted that the programs of sexual education at the beginning of the XXI century are fundamentally different from previous programs, where sexual relations were considered as possible only in the context of legal marriage.

3. Content of programs of sexual education in countries of the world.

A special place in the sexual education in foreign countries takes the formation of a correct attitude towards sexuality among schoolchildren. In modern French pedagogy, sexuality is viewed not as something that exists by itself, but as an aspect of the social, cultural and emotional life of the developing person. That is why most French educators try not to consider sexual education exclusively at the angle of prevention of possible risks, limited to the teaching of reproductive biology and sexually transmitted diseases (STDs). In their view, sexual education, focusing only on problems and risks, is not synchronized with the curiosity, interests, needs and experiences of children and adolescents, and therefore will not have the desired effect on their lives and behavior. French educators are working to ensure that the process of sexual education not only informs, but also shapes, develops schoolchildren, induces adequate responses. In addition, sexual education should begin with the formation of a fundamentally positive attitude towards sexuality and sexual health, rather than relying on deterrence, scaring risks. This approach is completely incompatible with the medication of sexuality. From the French programs, the notion of "sexual education" and "sexual enlightenment" disappeared, and a new one appeared - "education of sexuality" (L'éducation a la sexualité). Education of sexuality is a way for students to learn and understand how different the aspects of sexuality in general and their own sexuality are.

In Swedish pedagogy (H.Marklund, M.Erikson, T.Wetterberg), on the contrary, sexuality is recognized as having an independent value, not only in connection with marriage and childbirth. Adolescent sexuality is also considered normal. Sexual debut is a personal decision of everyone. Another thing is to avoid the associated undesirable consequences and risks, including reproductive and epidemiological ones. Education is based on the principles of safe and responsible sex. According to Polish pedagogues (I.Sosnovsky, V.Pyylkovsky, Z.Izdebsky, T.Kroul, and others) sexual education should be proactive and preventive rather than sexually stimulating, and be guided by the norm and positive aspects of sexual existence but not a deviation as a means of intimidation, and also contain an analysis of various aspects of their own sexuality (functional, sensory-emotional, semantic, behavioral), and optimization (correction) of their sexual behavior and lifestyle (in the form of drawing up their own programs of healthcare and their subsequent practical implementation). At the same time, in order to develop a positive and responsible attitude towards sexuality, youth, according to O. Bialyk, *"should have an idea of possible risks and satisfaction in this sphere, since under such conditions their behavior will become more responsible both for themselves and in relation to others in the society, which they live in"* (Byalyk, 2017).

An important task of sexual education is the formation of a proper attitude towards chastity. Quite common among Christians in Europe is the religious concept of chastity, the guiding principle of which is the communicative role of intimate relationships between people, that any sexual activity is sinful, except for sexual intercourse in a consecrated by church marriage that has the purpose of continuing the genus (A. Altmeyer, V. Bartolomoyz from Germany, N. Bienzhelich, A. Dukich representatives of Croatia, J. Dobzhansky, M. Tkachuk from Poland) (Dobrzański, Tkaczyk, 1974).

The theme "Contraception" has widespread in the vast majority of educational institutions of foreign countries on all the continents. The only difference between the curricula of individual countries is that this subject is considered at different stages of school education and in different volumes. For example, in Germany, the directives of all the federal states provide familiarization with the issue of abortion, while the theme "Protection of the unborn life" is considered only in the schools of Baden-Württemberg, Bavaria, Bremen, Lower Saxony, North Rhine-Westphalia and Rhineland-Palatinate. Overseas, in the first place, European experts believe that adolescent contraception must meet the following requirements: high efficiency; safety for health; ease of use; availability for purchase. It should be taken into account the sexual characteristics of teenage girls, which include: irregular sex life; irregular menstruation (up to 25%); insufficient sex education; fear of detecting contraceptives by parents or loved ones; the choice of protective means for the "advice" of friends; high STDs risk; several sexual partners.

Since condom is the most popular means of preventing unwanted pregnancies among sexually active young people, the weighty efforts of American educators are aimed at overcoming the feeling of embarrassment during the first acquaintance with contraception (condom inflow as balloons, inscription on them information on safe sexual behavior, etc.).

By teaching the pupils to communicate freely and properly handle a condom, the teacher invites a representative of the Center for the Prevention of Infectious Diseases, who talks about the various contraceptive options, indicating their advantages and disadvantages (Olson, 1998). Sexually transmitted diseases are an important topic for sexual education abroad. This issue was particularly acute in connection with the emergence of AIDS. From the wide range of training courses, the American school program *"Get Real About AIDS"* is distinctly distinguished (Panychok, 2010).

An important aspect of foreign programs for the sexual education of young people is the problem of adolescent pregnancy. Pupils get acquainted with the social, economic and physiological consequences of adolescent pregnancy. The study of statistics reveals to the students the fullness and drama of the problem of adolescent pregnancy in one or another country. Future discussions go beyond statistical data and focus on clarifying the causes and possible implications of adolescent pregnancy. For example, in American educational institutions, schoolchildren wear a "vest of empathy" that allows them to feel the condition of a pregnant woman; create micro situations for baby care; other responsibilities for the care and upbringing of children of all ages are clarified. The question of the responsibility of both women and men for the birth and upbringing of the child is discussed in detail (Brindis at al., 2000). An equally important task for sexual education in foreign countries is to preserve the sexual and reproductive health of young people. In general, pupils need to develop a responsible attitude towards their own health and the health of their loved ones; to develop the skills of making reasonable decisions and the ability to say no; to raise social responsibility in relations with representatives of the opposite sex; to form a desire to have a solid, friendly family that meets the requirements of modern society. This became the subject of the study of Finnish pedagogues K. Bildushkinen and K. Selkeneve (2012).

Much attention in sexual education abroad is given to the problem of sexual orientation, in particular homosexuality. In western countries, either most people consider homosexuality a normal phenomenon, or they pretend to perceive such a phenomenon. In Sweden, for example, they fight not with homosexuality, but with homophobia, in particular in school environment. In Denmark children boldly choose a sexual orientation, and who did not do it, can be determined later. In the country introduced the third gender - "uncertain", it is an opportunity to choose a sex at will until the age of 18 years. Of course, the latter position is unacceptable for the Ukrainian mentality, and therefore for propaganda in educational institutions. A similar picture is seen in other European countries. In one, this topic is completely eliminated; in others, this problem is considered optional in religious lessons, in some - only partly mentioned the same-sex love as possible forms of cohabitation, although most EU countries are convinced of the need to reflect the problems of the diversity of sexual orientations (Olson, 1998), at the same time, stressing that other forms of cohabitation should not be treated as an equal lifestyle along with traditional marriage and family (Fava et al.,2014).

Important, in our opinion, is the problem of sexual abuse of children, which is the subject of school curricula in the countries of the European Union (Poland, Germany, France, etc.), in connection with which the educational institutions undertake to take measures within the framework of sexual education in relation to the prevention of violence as a shameful phenomenon, not through intimidation of them, but by developing the independence and self-confidence of children and adolescents (Fava et al.,2014).

The school in many European countries plays an active role in detecting violence against children. During a medical examination, health care workers can identify cases of child victims of violence. They can conduct a preliminary analysis of the situation. The schedules provide at least one annual seminar on violence against children, in particular sexual violence in the family. The protection of students who use the Internet is intensifying. Schools have created a filter device to select or control information that is accessible to students. They make students aware of the risks of using the Internet.

Equally important in sexual education of young people is considered a hygienic concept, aimed at familiarizing children and adolescents with the main provisions of the anatomy and physiology of the human reproductive system and training their (especially girls) skills in personal hygiene. However, the "sexual issue" is an important and socio-hygienic problem, which is connected with health, working capacity, mood of people, and improvement of their family life. Instruction on personal hygiene and initial sanitation is carried out in all European schools, starting with elementary classes. According to J. Esser-Mittag, *"the school itself lays the foundations of sexual culture, while avoiding tactlessness and importunity, taking into account, first of all, age characteristics and the nature of physiological changes in the students organisms"* (Esser-Mittag,1999, p. 19).

Particular attention is paid to the fact that the beginning of sexual changes and growth patterns varies depending on individuals and that it is natural and normal. Students on an individual basis are helped to avoid anxiety if their development is ahead of or behind their peers. In addition, the importance of personal hygiene in relation to these bodily changes, increased need for personal hygiene, expediency of using deodorants, frequent changes in underwear is discussed. The proper use of products of female hygiene in connection with cleanliness, use and disposal of pads and tampons is discussed with teenage girls during separate classes.

Interestingly, in our opinion, there is the use of *"lingerie rules"* in Dutch schools: children are explained that all those parts of the body that cover underwear are intimate and no one else should see and touch them. It is worth noting that at this age children do not get knowledge about sex, but *information about their body and its features*. Students should know that problems and doubts caused by body changes are a natural part of maturation. The authors of such programs rely on data from numerous studies that confirm that children who do not have basic knowledge are more likely to suffer from pedophiles than their more educated peers.

Comprehensive sexual education in many countries around the world, especially in Europe, today is hampered by the multiethnicity of the population and its polyconfession: in Germany, France, the United Kingdom, the Nordic countries, from 10 to 20% of the population, are not indigenous people of the country, professing Islam or other religions. It should be added that in the majority of foreign countries there were strong protest attitudes of the parental community and religious organizations against sexual education, especially in elementary schools. The French experience of organization in the colleges and lyceums of the three sessions of sexual education is noteworthy, focusing not only on biological knowledge but also on the psychological, emotional, social, cultural and ethical dimensions of sexuality, associating and completing the various lessons taught in class, integrate all the knowledge in each head. Sessions are held in the form of debates that extend information on prevention (AIDS, STDs, contraception) to more existential issues: conversations about oneself, one's body, relationships with others, the feeling of love, the relationship between boys and girls, sexism, homophobia. Among schoolchildren at the sessions "leaflets" about sexual violence, puberty, sexual orientation, sexism and homophobia, contraception, sexually transmitted diseases, etc. are distributed.

Studying the sexual education of schoolchildren in the UK, P. Meredicp highlights the principles that are mandatory: all information received by children on sex should be given exclusively in the context of marriage and family; teachers should not teach, discuss, and introduce students to printed materials that are illegal and unnatural in sexual practices; things that are obscene in the eyes of the public can not be used as pupils' visual aids; sstreet terminology should not be used in lessons, the language of the teacher should correspond to the language of science; discussions, training and contraceptive use guidelines should take place in the context of family and marriage; any pornographic and obscene books and other printed publications, films, slides and videotapes should be excluded from education (Meredith, 1989).

Today, in the UK, as in other European countries, there is a need for more attention to security around the exchange of digital images between students - with the necessary discussions about the impact of "sexting" on young people. In sexting, the key issue is the consent of the subject to receive erotic, especially pornographic images. Children should be aware of the various age limits associated with different sexual activities. For example, in Britain, the age of sexual consent is 16 years, whereas the age at which the legally allowed to send nudity is 18 years. By the way, a significant part of the youthful sexting takes place within the relationships or as a flirtation tool. That is why students should know what the agreement means and how it looks in the youth relationship. Understanding this will help distinguish between "research" and "operational" behavior in relationships between young people. This differentiation is crucial. There is a wide range of social and legal issues related to sexting. Its prevalence among young people contributed to blurring of the limits of consent, coercion and "healthy" sexual behavior.

As we become familiar with Swedish sexual education experience, we have focused on specialized adolescent clinics that are closely linked to the school, where students receive free, widely available and confidential services for family planning and abortion. Sexual education in the Netherlands is also different because it shows sexuality in a positive light, informing pupils about the nice aspects of sex and relationships. The ultimate goal of Dutch sex education is the desire to instill a sense of responsibility for adolescence about the birth of unwanted children, the consequences of sexual relationships, and to give boys and girls the opportunity to make the right decisions by setting their own sexual boundaries. Much attention in the Netherlands is paid to sexual assurance and diversity, the formation of respect and tolerance for non-traditional sexual orientations (legitimate, of course) and assistance in the development of skills for protection from sexual coercion or violence.

Conclusions.

In the work on sexual education in foreign, especially European, schools certain rules should be followed: content, forms and methods of sexual education should correspond to the age-specific features of the students (including stages of sexual development), as well as the level of their knowledge on a particular topic. Students have the right to receive comprehensive answers to questions that arise in them; sexual socialization can only be successful if gender issues are viewed and discussed openly as a positive, integrative part of health; sexual education should give students true knowledge of human sexuality, teach young people the ability to express their thoughts and create their own judgments; to discuss individual topics it would be useful to invite independent specialists who do not perform any functions at the school; sexual education in school and family should go in one direction; it is important to create an atmosphere in which the students would feel very free and relaxed when learning the most delicate topics. (Fricher, 1976).

References

Bildjuschkin K., Verho K. (2012). Selkenevää! Seksuaalikasvatus näkyväksi – tutkimus 2012. Turku : Turun kaupunki, sosiaalija terveystoimen julkaisuja, 10–23.

Brindis C., Pagliaro S., Davis L. (2000). Protection as Prevention: Contraception for Sexually Active Teens. Washington: National Campaign to Prevent Teen Pregnancy

Byalyk O. (2017). Modern tendencies of sexual education of pupils in the countries of the European Union. Uman. [in Ukrainian]

Camilleri S. (2013). Guidelines on sexuality and relationships education in maltese schools. Ministry for education and employment. Directorate for Quality and Standards in Education.

Center for the Improvement of Child Caring (n.d.). Parenting Skill-Building Programs. Retrieved from : http://www.ciccparenting.org.

Dobrzański J., Tkaczyk M. (1974). Seks i wychowanie / J. Dobrzański, M. Tkaczyk. Warszawa.

Esser-Mittag J. (1999). Jugendsexualität heute. Tabus – Konflikte Lösungen / Judith Esser-Mittag. Weinheim : Beltz.

Evaluating Abstinence-Only Interventions. (1998). Washington: The National Campaign to Prevent Teen Pregnancy.

Fava N. M., Cheng L. Y. (2014). Trauma-informed sexuality education: recognising the rights and resilience of youth. Sex Education, 4, 383–394.

Fricher R. (1976). Zur Theorie der Sexualität und Sexualerziehung. Weinheim: Beltz.

Foerster, Fridrich W. (1952). Sexualethik und Sexualpadagogik. Kempten.

Kirbi D. (1984). Education for Sexuality; Evaluation of Programs and Results. N J., Network Publication.

Medero F.(2009) Programa de Educación Afectivo Sexual. Educación Secundaria / Fernando Barragán Medero. Edita: Junta de Andalucía. Consejería de Educación y Ciencia e Instituto Andaluz de la Mujer.

Meredith P. (1989). Sex Education. L.

Molina D., Torrivilla I. (2011). Sánchez. Significado de la educación sexual en un contexto de diversidad de España. Electronic Journal of Research in Educational Psychology, 23 (9), 415–444.

Olson D.H. (1998). PREPARE/ENRICH Counselor's Manual. Minneapolis.

Panychok T. Ya. (2010). Sexual education of pupils in Germany: diss. candidate ped . sciences: 13.00.07. Ternopil.

Rogow D., Haberland N. (2009). It's all one curriculum volume 2: activities for a unified approach to sexuality, gender, hiv, and human rights. Education.

Science and Success (2003).. Sex Education and Other Programs That Work to Prevent Teen Pregnancy, HIV & Sexually Transmitted Infections. Washington: Advocates for Youth.

Standards for Sexuality Education in Europe. (2010). WHO Regional Office for Europe and BZgA. Federal Centre for Health Education, BZgA - Cologne.

Ungdomsmottagningen (n.d.). Sex och samlevnad i skolan. Retrieved from: www.umo.se

Vandenbroucke F. (2009). Nieuwe vakoverschrijdende eindtermen, een nieuwe boost voor seksuele en relationele opvoeding. In conferentie van Sensoa vzw. Hot topics op School, Brussel, België.

Weaver A., Byers S., Sears H., Cohen J., Randall H. (2012). Sexual health education at school and at home: Attitudes and experiences of new Brunswisk parents. The Canadian Journal of Human Sexuality, 11(1), 19-31.

WHO Defining sexual health (2006). Report of a technical consultation on sexual health. Geneva.

Halyna Tsyhura
PhD in Agriculture, Associate Professor,
T. G. Shevchenko National University "Chernihiv Colehium"
orcid.org/0000-0002-2998-7537
Hanna Zhara
PhD in Pedagogics, Associate Professor,
T. G. Shevchenko National University "Chernihiv Colehium"
orcid.org/0000-0002-8092-542X
Halyna Kurtova
PhD in Pedagogics, Associate Professor,
T. G. Shevchenko National University "Chernihiv Colehium",
Chernihiv, Ukraine
orcid.org/0000-0002-6939-631X

EDUCATION FOR SUSTAINABLE DEVELOPMENT FOR FUTURE TEACHERS OF PHYSICAL CULTURE AND SPECIALISTS OF PHYSICAL EDUCATION AND SPORTS

Abstract. *The article deals with the peculiarities of the sustainable development goals realization in Ukraine as one of the elements of European integration and the educational reform. A modern vision of ways to realize the goals of sustainable development through the system of formal and non-formal education is presented. The opportunity and the prospect of future physical culture teachers and specialists in physical education and sports attracting to the realization of sustainable development goals are revealed. The content of the course "Education for sustainable development: the steps of the EU and Ukraine" based on the experience of the EU countries is offered. It will contribute to the development of the competencies necessary for further professional activities in accordance with such sustainable development goals, as: the preservation of the environment, the preservation of health, the manifestation of tolerance to people with special needs, initiative, and involvement of a person in decision making.*

JEL Classifacation: O 150

Introduction.

Ukraine's Steps to European Integration through Education. Negotiations between Ukraine and the European Union on cooperation took place for a long time. Finally, in 2014, an extremely important event in the history of our country took place – the "Association Agreement between Ukraine and the EU" was signed and ratified. Compliance with the requirements of this Agreement brings Ukraine closer to membership in the European Union. The provisions of the Agreement relate to various areas of activity, in particular issues of interest to us – education (chapter 23) and sport and physical culture (chapter 25) (Association Agreement between Ukraine…, 2015).

In the following 2015, the President of our country issued a decree on the Strategy for Sustainable Development "Ukraine 2020" (Decree of the President of Ukraine, 2015).

Thanks to this, Ukraine has finally become one more step closer to implementing a new strategy for sustainable development. Indeed, the Concept of Sustainable Development, which was proposed by the international community in 1987 (Development and international economic cooperation…, 1987), was supported by our country back in 1992 when the Rio Declaration on Environment and Development was signed. But no comprehensive legal document on the state level on sustainable development since then was adopted in Ukraine. According to the data of the National Institute for Strategic Studies, legal regulation in the field of sustainable development was carried out not on the basis of the application of the Laws of Ukraine, but on the basis of normative documents such as Presidential Decrees, Decrees and Ordinances of the Cabinet of Ministers of Ukraine, Orders and Letters of Central Executive Bodies (Sustainable Development Strategy: Opportunities and Problems of Implementation in Ukraine, 2013).

The goal of the Strategy for Sustainable Development "Ukraine – 2020" is the introduction of European standards of living in Ukraine. For this purpose, a number of reforms are envisaged, among them Educational Reform.

In 1992, the international community recognized education as the main driving force for sustainable development of society, and subsequently a number of education documents for sustainable development were created (V. Boholiubov, 2010). They state that education for sustainable development should last from birth and throughout life; and should be implemented in all formal and informal educational institutions within all relevant academic disciplines and regardless of professional orientation. Consequently, education for sustainable development must be comprehensive. It will contribute to the knowledge and skills of sustainable development and will enhance the person's ability to lead a healthy lifestyle in harmony with nature (UNECE strategy for Education for Sustainable Development, 2005).

The issue of education in the interests of sustainable development is contained in the Ukrainian Law On Education (2017, revision 2019), which states that education is a state priority, which ensures the sustainable development of society and the state.

In 2017, the Government of Ukraine presented the National Report "Sustainable Development Goals: Ukraine", which talked about an adapted national system of sustainable development goals (86 development tasks and 172 indicators for monitoring their implementation). Immediately, the goals of sustainable development strategy are reflected in the principles of state educational policy and principles of educational activity (Article 6 of the Ukrainian Law On Education, 2017, revision 2019). Here are some of them: rule of law; quality assurance of education; ensuring equal access to education; development of an inclusive educational environment; scientific character and diversity of education; the integrity and continuity of the education system; facilitating lifelong learning; integration with the labour market; humanism; democracy; intolerance of corruption and bribery; state-public and state-private partnership; the formation of respect for human rights

and freedoms, the formation of a healthy lifestyle culture, ecological culture and a careful attitude towards the environment; inextricable connection with world and national history; integration into the international educational and scientific space, etc. (Ukrainian Law On Education, 2017, revision 2019).

The direction of Ukraine's education on the provisions of the Strategy of Sustainable Development should contribute to the formation of an appropriate outlook and thinking. According to the provisions of the law "On Full General Secondary Education" (Article 12 of the Ukrainian Law On Education, 2017, revision 2019), the graduate must possess a number of key competencies.

In addition to domestic experience and domestic scientific research, international commitments and foreign experience are also recognized as the basis of state policy in the field of education. The concept of the New Ukrainian School (2016) states that the new educational standards will be based on the "Recommendations of the European Parliament and the Council of Europe on the development of key competences for lifelong education". According to this, 10 key competencies are provided to be held by a graduate of a general secondary education institution, such as: communication in the state and foreign languages, mathematical competence and basic competencies in science and technology, information and digital competence, lifelong learning, initiative and entrepreneurship, social and civil competence, awareness and self-expression in the field of culture, environmental literacy and healthy life. It is also noted that key competencies are cross-cutting skills, acquired through the study of various subjects, each of which contributes to each of the competencies (New Ukrainian School. Conceptual Principles…, 2016).

To form such competencies in the students, each teacher must own them. This is evidenced by Article 17 of the Ukrainian Law On Education, which states that "the purpose of higher education is to obtain a high level of scientific and/or creative artistic, professional and general competencies necessary for activities in a certain specialty or in a particular field of knowledge" (Ukrainian Law On Education, 2017, revision 2019). In addition, according to the results of the Eighth Ministerial Conference "Environment for Europe" (Batumi, Georgia, June 8-10, 2016) "Fundamentals of the Future Implementation of the UNECE Strategy for Education for Sustainable Development", among the priority areas of action is the promotion of education in the interests of sustainable development for pedagogical education and training of all teachers.

In 2011, in Geneva, the Committee on Education for Sustainable Development identified the main competencies of teachers in the education system for sustainable development (April 7-8, 2011, sixth meeting), and the characteristics of education for sustainable development were defined: a holistic approach focused on integration thinking and practice; anticipating changes, implementing transformations to change learning methods. Thus, since the new Ukrainian Law On Education (2017) is based on the provisions of a strategy for sustainable development of society, the issues of education for sustainable development are extremely relevant.

1. Views on Education for Sustainable Development in Ukraine

The works of the scholars on education for sustainable development in Ukraine has appeared for a long time. But most of them are of a theoretical nature. According to G. Niepiehina (2009), the goals of sustainable development in Ukraine still remain little known to the majority of the population. And the idea of sustainable development is perceived as something abstract. Most scholars in their works prove the importance and necessity of education for sustainable development of society from different positions. L. Melnyk (2005) at al. considers environmental education as a component of sustainable development.

P. Saukh (2009) expresses the opinion that the transition to a sustainable development of society requires the formation of a new model of education, which would be in line with the civilization strategy of the future development of mankind. We need not just a "relay of knowledge and social experience from generation to generation", but the training of a person to work in conditions of uncertainty, the ability to find a way out of crisis situations due to advanced knowledge and systematic actions. "The main condition for realizing such a strategy is understanding of the world as a universal-system essence, and self-preservation of mankind is possible only through self-change of man".

H. Filipchuk (2010) states that education for sustainable development is an initial and main element of the transformation of society, it forms the appropriate thinking for understanding the principles of sustainable development, promotes awareness of the need for social and environmental progress for different industries, it is necessary for all people throughout life, requires consideration of national and regional peculiarities and should bring humanity closer to activity in one plane – overcoming the ecological crisis.

Conceptual approaches to the formation of education for sustainable development is described by V. Boholiubov (2010). He expresses the view that the main goal of education for sustainable development is to promote the environmental consciousness, timely acquisition of knowledge, skills and abilities, to prevent and solve socio-economic and environmental problems and to improve the quality of life of generations. The main task of education for sustainable development, in the opinion of this author, is to establish a new morality – the morality of a society of sustainable development.

Yu. Skyba, O. Lazebna & M. Skyba (2011) reveal the content and structure of environmental education in the context of sustainable development, methodological functions of sustainable development education.

L. Zahvoiska (2011) highlights the tendencies of the formation of the ESR. She also formulates the tasks of its further development.

H. Baliuk (2012) examines the problems of legal regulation of the implementation of the concept of sustainable development into the education of Ukraine. He makes suggestions on improving the current legislation in this area, and also highlights the position on incorporating ecology and sustainable development into curricula at all levels of the educational process, with the strengthening of the role of social and humanitarian aspects of environmental education and environmental promotion, etc.

O. Didkov (2012), considering the issue of education for sustainable development, raises questions about the formation of a conscious attitude of the individual towards his or her own health and supports the view that education for sustainable development should promote the dissemination of knowledge about the environment and its state and provide criteria, standards, recommendations for decision making on environmental issues.

N. Filianina (2013) argues in her work that education for sustainable development cannot be reduced to only one educational branch; it needs an integrated approach and must combine natural sciences and the humanities.

T. Syla (2013) compares key competencies of sustainable development and social work professionals. It highlights the experience of implementing sustainable development ideas in the educational process of training future specialists in social work.

Yu. Krasnobokyi & I. Tkachenko (2014) note the importance of strengthening the fundamental, methodological and methodological training of specialists in the field of natural sciences, in particular, physics teachers, in order to ensure the implementation of the provisions of the concept of sustainable development of society.

N. Dushechkina (2014) believes that on the way to sustainable development of society, environmental education should be carried out in parallel with economic one.

A. Ulishchenko (2014) considers the image of a teacher of higher educational institutions in the context of education for sustainable development.

M. Horova (2015) in the context of sustainable development addresses issues of environmental literacy.

The team of authors headed by O. Bondar (2015) believe that the necessary condition for the successful sustainable development of society is environmental education and environmental thinking of all specialists in different fields.

I. Korenieva (2018) offers a concept for the training of future biology teachers to implement education functions for sustainable development; investigates the current state of education for sustainable development in Ukraine – analyses the activities of non-governmental organizations and higher educational institutions on the implementation of education for sustainable development in Ukraine. The author points out that education for sustainable development is more offered to students of technical and pedagogical specialties of natural science. The author also states that modern domestic researchers sometimes identify the concept of “environmental education” and “education for sustainable development” I. Korenieva (2018a, 2018b). As a rule, this is observed in the case of considering the concept of “education for sustainable development” by specialists in natural sciences. The reason for this is that environmental education in Ukraine has not been properly introduced; it has not become total, as it should be. This led to the use of the concept of “sustainable development”, one of which is the ecological component, in the sense of “environmental education”. We are confident that this is not correct, because the international community that defined the concept of “sustainable development” determined it as a combination of economic, environmental and social components.

If we turn to the Sustainable Development Goals for Ukraine, which were approved at the United Nations Summit on Sustainable Development in 2015, then we can consider much more constituents of the concept of "sustainable development", that is, to further elaborate on it. More practical education for sustainable development is being implemented in Ukraine on the basis of environmental education through the Internet sites of civil society organizations and pilot secondary educational institutions (The role of the Partnershi, n.d.).

In view of the foregoing, the professional training of specialists, who, having received the relevant knowledge, remains, in our opinion, beyond the attention of the scholars, may become the driving force for education for sustainable development not only for the younger generation, but also for the adult population. These are teachers of physical education and specialists in physical education and sports. They work with children, young people and adults both in formal and non-formal educational institutions. Therefore, their acquisition of knowledge about sustainable development and the possibility of their use in professional activities will allow expanding and accelerating the process of formation of the competences necessary for the achievement of the goals of sustainable development in children, youth and the elderly population and to reach the education for the sake of sustainable development of a wide population of the country of different age categories and different professional orientation.

2. Education for sustainable development for students of physical education faculties

There are no relevant courses in the higher educational institutions of Ukraine that would facilitate the training of future teachers of physical culture and specialists in physical education and sports in the principles of sustainable development of society. Therefore, for their professional training we have offered a course "Education for sustainable development: the steps of the EU and Ukraine". The course aims to promote the European Union's education provisions for sustainable development. Its feature is the study of the idea of sustainable development and the introduction of European experience in the implementation of education in the interests of sustainable development in higher education institutions for students – future teachers of physical education and specialists in physical education and sports. The program is based on modern methodology and the latest innovative forms and methods of training. It provides an interdisciplinary and systematic approach to studying the main areas of human interaction with society and the environment from the standpoint of principles and strategies for sustainable development. It will form a deep knowledge and understanding of the mechanisms for achieving a compromise between humanity and nature in order to achieve sustainable development of society.

The course aims to build competencies necessary for decision-making in further professional activities in line with sustainable development goals. In particular, it is preservation of the environment, health improvement and promotion, tolerance to people with special needs, initiative, involvement of a person in decision making, etc. Therefore, the result of studying the course should be reformatting the consciousness of the participants in the direction of the need for the transition of society to sustainable development. The proposed course will contribute to the realization of specific goals of sustainable development from the point of view of education.

Since the Sustainable Development Strategy has many goals, the course is interdisciplinary.

The program "Education for Sustainable Development: Steps of the EU and Ukraine" has two thematic sections:

1. The history of the concept of sustainable development: the first experience of Europe.

2. Education for the achievement of sustainable development goals: EU view and steps.

The purpose of the first section "Sustainable development: from the emergence of the concept to the realities of the present" is to show students the benefits of the development of society, which are now directed by the EU countries. Studying this section, students will get acquainted with the history of the concept of sustainable development, the activities of the Roman Club, the strategy and objectives of sustainable development in Europe, UNECE documents on sustainable development and education for sustainable development. Students will also consider the peculiarities of interpreting the concept of sustainable development in Ukraine and Ukraine's steps towards sustainable development.

For a better understanding of the sustainable development strategy of the European countries, the topic "Human values for sustainable development" they will be invited to find personal and professional values in the list of sustainable development goals. This will contribute to the formation of an understanding of the ownership value of information on environmental, economic and social well-being, and will require a change in the own consciousness and consciousness of the Ukrainian population in order to transform society towards sustainable development, for example, of the EU countries and orientation of Ukraine's education on sustainable development.

The second section, "Education for the achievement of sustainable development goals: views and steps of EU countries", consists of four themes, each of which addresses the ways of realizing the goals of sustainable development in Ukraine, using the experience of the EU countries.

Topic 1. "Global environmental problems solving: the view and steps of the EU countries" will familiarize students with the global problems of the atmosphere, hydrosphere and the lithosphere of our planet, their causes and consequences. Students will get acquainted with the latest trends in reducing anthropogenic impact on the environment, in particular, with the following: prevention of climate changes and air pollution, cleaning drinking water and surface waters from pollution, restoration of soil fertility and land ecosystems; stabilization of urboecosystems due to reuse of raw materials, garbage disposal, environmentally friendly production and consumption; environmental management, etc., which are used in the EU and other countries. Students will be able to compare the ways of European countries and Ukraine in the specified directions of nature use and nature conservation; learn about the activities of European sports organizations and sports brands in support of sustainable development goals. Having borrowed the European experience,

they will be able to use it in their professional activities. Consideration of this topic will allow students to demonstrate possible ways of achieving the following goals of sustainable development of society: Climate change mitigation, Clean water and proper sanitary conditions, Conservation of marine resources, Protection and restoration of land ecosystems, Affordable and clean energy, Sustainable urban development and communities.

The study of the topic will be completed by a student's search for ways to transfer acquired knowledge and skills to the schoolchildren for use during future pedagogical and coaching activities.

Topic 2. "Strong health and well-being: educational technologies from the EU experience" will familiarize students with the provisions of the EU Sustainable Development Strategy for Health. This topic is a logical continuation of the previous one as the students will receive information on the impact of exogenous (abiotic, biotic and anthropogenic) and endogenous factors on health, which will contribute to the understanding of the importance of maintaining health in order to minimize the accumulation of negative information in their genome. Students will analyse the programs of the EU and Ukraine on the response to dangerous infectious and non-infectious diseases, to consider the latest educational technologies of EU countries aimed at disease prevention. Considerable attention will be paid to issues of reproductive and sexual health. Students will get acquainted with the experience of EU countries, aimed at solving demographic problems, family planning, and prevention of reproductive diseases of men and women. Consideration of this topic will allow students to demonstrate possible ways to realize such a goal of sustainable development as sound health and well-being not only from the position of motor activity, but also from the standpoint of ecology, sociology and economics.

The topic will be completed by developing a student project and discussing the methods of the population health improving that it is advisable to use in their professional activity as teacher of physical culture, or a specialist in physical education and sports.

Topic 3. "EU Standards for Food Quality" is a logical extension of previous topics. After all, the nutrition of the population is a factor that depends on the state of the environment, natural and anthropogenic, and affects human health and athletes in particular. Therefore, students will familiarize themselves with the European standards of food quality; consider the technical, environmental and sanitary requirements for them. Comparison of EU normative documents on food quality with the relevant legislative acts of Ukraine will deepen understanding of the importance of implementing European standards in all spheres of life in Ukraine. With the help of biochemical research methods, students learn to independently determine the most important health indicators, can detect malicious foods. Consideration of this topic will allow students to demonstrate the potential ways of achieving the goals of sustainable development as: Strong health and well-being, Sustainable development of cities and communities, Responsible consumption and production.

The study of the topic will be completed by the student's search for ways of realizing the European standards of food quality in the realities of Ukrainian society.

Topic 4. “Inclusive processes in Europe – equality in education” will help to make a step forward in achieving the goals of sustainable development, such as Reducing inequalities, Sustainable development of cities and communities.

Students will get acquainted with the experience of the European Union on the introduction of inclusive education; the modern system of inclusive education in Ukraine, will understand the role of the individual in this process and the prospects for development. While studying this topic, students will work on information on the level of education rights and the implementation of the principles of inclusion in EU countries. They will also analyse the latest achievements of the EU and Ukraine in the field of equal rights and access to education for all, will work on identifying common themes and areas of cooperation with EU countries. The peculiarities of development of the normative-legal base of Ukraine in the direction of inclusive processes will be considered. Also, the problems of inclusion in Ukrainian society will be studied, for example, as citizens perceive children and adults with special needs, what mental, political and cultural bases of inclusion are there, etc.

The study will complete the selection of innovative developments in the context of the introduction of European experience in inclusive education.

Consequently, the second part of the general program aims to familiarize students with some of the global environmental, economic and social problems of humanity and the ways out of what they see and implement in the EU. Students’ special attention will be directed to ways of solving the issues of preservation and restoration of health, which are being implemented in educational institutions of the EU countries, because it is important for future teachers of physical education and specialists in physical education and sports to grow a healthy personality. One of the central issues in the topic is to overcome the inequality and accessibility of education regardless of social status. This will help make a step forward, focusing on the experience of European countries in the massive engagement of people of all ages with motor activity as a mandatory element of a healthy lifestyle, in addressing the issues of access to education and the rehabilitation of people with special needs. The question of how to protect, preserve and restore the environment is obligatory for consideration, since human health and well-being depend entirely on the state of natural and artificial ecosystems, urboecosystems and the biosphere as a whole: climate change, air quality, water, soil, etc. The study of the proposed topics will contribute to:

– understanding of the consequences of anthropogenic impact on the planetary scale and the opportunity to change the situation for the better thanks to the joint efforts of each of the inhabitants of the planet, international co-operation and the involvement of the experience of the EU countries. This will motivate students – future educators to take appropriate actions in education on the improvement of the state and protection against environmental problems of the atmosphere, hydrosphere, lithosphere, urban ecosystems, natural ecosystems in their region and rational nature use.

– awareness of the consequences of the impact of the quality of the environment on the health of each person, the importance of introducing in Ukraine European standards on the quality of food and other living standards;

– the formation of the students' system awareness and understanding of issues of relevance to their age issues of the relationship of reproductive health of a person and the tools of family support in the field of state regulation of demographic processes in the EU. Students will be able to actively use preventive measures for the most dangerous infectious and non-infectious diseases in their own way of life and further professional activity; learn to maintain their own mental health and avoid early professional burnout in their professional activities.

As a result of consideration of the proposed topics, the experience of the EU countries will be studied and the aspects that can be used by future physical education teachers and specialists in physical education and sports in pedagogical and sports activities in Ukraine are outlined. This will significantly increase the number of qualified teachers who will be competent in implementing the EU's experience in achieving the goals of sustainable development in all levels of education, including through international cooperation in teacher training.

Consideration of these topics will be one of the steps in realization of such an important goal for EU countries and Ukraine as "Qualitative Education", as it will facilitate the preparation of a teacher, a specialist competent in the ways of realizing the goals of sustainable development through education. Students will acquire the relevant competencies and will have a wide range of information on the goals of sustainable development of the EU and Ukraine and possible ways of their implementation through the system of continuous – formal, informal and informational education in Ukraine.

Due to the acquired competencies, physical education teachers and physical education and sports specialists will be able to transfer their knowledge and skills to their pupils and pupils, to show the leading role of the EU countries in achieving the goals of sustainable development.

Conclusions.

1. The term of Ukraine's exit on the path to sustainable development was long. Despite the support of the course of sustainable development in 1992, real steps took place only in 2014 after the signing and ratification of the "Association Agreement between Ukraine and the EU". The first official document confirming that Ukraine took the course on sustainable development was the decree of our country's president "On the Strategy of Sustainable Development Ukraine-2020". The goal of the Strategy for Sustainable Development "Ukraine-2020" was to determine the introduction of European standards of living in Ukraine. To this, a number of reforms were envisaged, including reform of education.

One of the key provisions of the Law of Ukraine "On Education" is that education is recognized as a state priority, which ensures the sustainable development of society and the state.

2. Most research works on the implementation of education for sustainable development in Ukraine are theoretical. Quite often, education for sustainable development is equated with environmental education, but recently the works started to appear, the authors of which state that education for sustainable development cannot be reduced to only one educational branch, it needs an integrated approach and must be combined with a complex of sciences. In Ukraine, in fact, at an amateur level, education for sustainable development begins to be implemented in schools, non-formal education institutions and individual institutions of higher education for students of technical and natural sciences.

3. For the implementation of the education project in the interests of sustainable development, it is proposed to involve teachers of physical education and specialists in physical education and sports. They work in institutions of formal and informal education. This will allow education for the benefit of sustainable development to a wide range of people of different age groups, from the smallest to the oldest, and different professional orientation.

For the mastery of physical education teachers and specialists in physical education and sports with the relevant competences for education in the interests of sustainable development, the course "Education for Sustainable Development: Steps of the EU and Ukraine" was developed. As a result of consideration of the proposed topics, the experience of the EU countries will be studied and the aspects that can be used by future physical education teachers and specialists in physical education and sports in pedagogical and sports activities in Ukraine are outlined. The greatest attention is paid to the issues of maintaining health, the environment, reducing inequality, quality education.

References.

Baliuk, H. I. (2012). Problems of legal regulation of implementation of the sustainable development concept into native education. *Universytetski naukovi zapysky – University Scientific Notes*, 1(41), 613–618. [In Ukrainian].

Boholiubov, V. M. (2010). Conceptual approaches to education for sustainable development. *Informatsiinyi biulleten Natsionalnoho Tempus-ofisu v Ukraini – Newsletter of the National Tempus Office in Ukraine*, 3, 22–27. [In Ukrainian].

Bondar, O. , Baranovska, V. , Yeresko, O., Biliavskyi, H.. & Satalkin, Yu. M. (2015). Environmental education for sustainable development in questions and answers: scientific and methodical manual for teachers. Bondar, O. I. (Ed.). Kherson. [In Ukrainian].

Rio Declaration on environment and development (1992). Retrieved from URL: https://zakon.rada.gov.ua/laws/show/995_455 [In Ukrainian].

Didkov, O. (2012). Education for health and sustainable human development. *Vyshcha osvita Ukrainy – Higher education of Ukraine*, 3, pp. 83– 88. [In Ukrainian].

Dushechkina, N. (2014). Integration of economic and environmental education in terms of sustainable development. *Scientific Annual of Melitopol State Pedagogical University. Series: Pedagogics*, 1(12), pp. 256–260. [In Ukrainian].

Filianina, N. M. (2013). Education for sustainable development: humanitarian and environmental components. *Humanitarian magazine.* 2, pp. 93–99. [In Ukrainian].

Filipchuk, H. (2010). Nature and man-centeredness in the context of environmental education for sustainable development. *Osvita i upravlinnia. – Education and Management.* Vol. 13, 2-3, 79–85. [In Ukrainian].

Horova, M. P. (2015). The concept of environmental literacy in the context of sustainable development of society. Proceedings of the Conference "Innovatsiinyi potentsial svitovoi nauky – XXI storichchia", (19-25 sichnia, 2015), 23–24. [In Ukrainian].

Korenieva, I. M. (2018a). The concept of training of the future biology teachers to implementation the functions of education for sustainable development. *Coll. of scientific works Pedagogical Sciences*. Vol 2, pp. 148–153. [In Ukrainian].

Korenieva, I. M. (2018b). Education for Sustainable Development: Realities of Ukraine. *Bulletin of the Glukhiv National Pedagogical University named after Alexander Dovzhenko*. Vol. 1 (36), 17–25. [In Ukrainian].

Krasnobokyi, Yu. M. & Tkachenko, I. A. (2014). The place and significance of the natural sciences in the Concept of Sustainable Development. *Scientific notes. Series: Problems of the methodology of physical, mathematical and technological education.* Vol. 5, Issue 2, KDPU im. V. Vynnychenka, pp. 113–117. [In Ukrainian].

Melnyk, L. H. (2005). Fundamentals of Sustainable Development. Melnyk, L. H. (Ed.). Sumy. Ukraine: VTD «Universytetska knyha». [In Ukrainian].

Niepiehina, H. V. (2009). Education for Sustainable Development: Origins and Prospects. *Pedagogy. Scientific works*. Vol. 99, Issue 112, pp. 20–24. [In Ukrainian].

New Ukrainian School. Conceptual Principles for Reforming the Secondary School. MES (2016). Retrieved from URL: http://nus.org.ua [In Ukrainian].

United Nations (1987). Development and international economic cooperation: the problem of the environment. 42th session of the United Nations, August 4, 1987. Retrieved from URL: https://www.un.org [In Russian].

Ecoosvita (n.d.). The role of the Partnership Network "Education for Sustainable Development in Ukraine" in the implementation of the UNECE Strategy for Education for Sustainable Development. Retrieved from URL: http://www.ecoosvita.org.ua [In Ukrainian].

Saukh, P. Yu. (2009). A new form of education in the context of sustainable development ideas. *Proceedings of the International Scientific and Practical Conference "Problems of education in Poland and Ukraine in the context of processes of globalization and European integration", April 22-24, 2009, Kiev – Zhytomyr*. Kremen, V., Levovytskyi, T., & Sysoieva, S. (Ed.). Kyiv: KIM, pp. 63–74. [In Ukrainian].

Skyba, Yu. A., Lazebna, O. M., Skyba, M. M. (2011). Content and structure of environmental education in the context of sustainable development. *Ekolohichnyi visnyk – Ecological Bulletin*, 1, pp. 25–26. [In Ukrainian].

Sustainable Development Strategy (2013). Opportunities and Problems of Implementation in Ukraine. Analytical Report. Kyiv. Ukraine. 64 p. [In Ukrainian].

Syla, T. I. (2013). Social Work for Sustainable Development: In Search of Common Vectors. *Problems of Social Work*, 2 (3), pp. 74–84. [In Ukrainian].

Sustainable Development Goals: Ukraine (2017). National report 2017. Ministry of Economic Development and Trade of Ukraine. Kyiv. Ukraine. 174 p. [In Ukrainian].

Association Agreement between Ukraine (2015) On the one hand, and the European Union, the European Atomic Energy Community and their Member States, on the other hand, dated 30.11.2015. Retrieved from URL: https://www.kmu.gov.ua [In Ukrainian].

Decree of the President of Ukraine "On the Strategy of Sustainable Development «Ukraine – 2020»" (2015). dated January 12, 2015, No 5/2015. Retrieved from URL: https://zakon.rada.gov.ua/laws/show/5/2015 [In Ukrainian].

Ulishchenko, A. (2014). The image of a teacher of a higher educational institution in the context of education for sustainable development. *Horizons*, 2 (39), 30–32. [In Ukrainian].

Committee on Environmental policy (2005). UNECE strategy for Education for Sustainable Development. Economic commission for Europe High-level meeting of Environment and Education Ministries (Vilnius, 17-18.03.2005). Retrieved from: https://www.edu.ro.

UNECE (2016) .Eighth Ministerial Conference "Environment for Europe" Batumi, Georgia, June 8–10, 2016. Retrieved from URL: https://www.unece.org [In Russian].

Zahvoiska, L. D. (2011). Education for sustainable development: achievements and challenges. *Naukovyi visnyk NLTU Ukrainy – Scientific Annual of NLTU of Ukraine*. Vol. 21.19, pp. 294–303. [In Ukrainian].

Ukrainian Law On Education (2017). Revision January 19, 2019 No. 2145-VIII. Retrieved from URL: https://zakon.rada.gov.ua/laws/show/2145-19#n1631 [In Ukrainian].

Maryna Tsapenko
Post-graduate student of the Department of Physics and Methods of Teaching Physics,
Sumy state pedagogical Makarenko University
orcid.org/0000-0002-7662-208X
Volodymyr Uvanii
Candidate of Technical Sciences, Professor,
Sumy state pedagogical Makarenko University
orcid.org/0000-0002-8479-325X
Ivan Moroz
Doctor of pedagogical sciences, Professor,
Sumy state pedagogical Makarenko University
Sumy, Ukraine
orcid.org/0000-0002-4965-1352

THE EUROPEAN EXPERIENCE OF LEARNING THE BASICS OF ENERGY CONSERVATION

Abstract. *Educational activities in European countries on energy conservation and energy efficiency are considered. It is shown that energy companies in all countries finance school educational programs and energy conservation projects, train teachers in the field of energy efficiency, support non-profit institutions for climate protection, organize competitions for students on environmental topics. Today, school community throughout Europe is involved in the idea of economical use of energy resources and ideas for sustainable economic development. A review of the current state of development of the energy sector of Ukraine was made and a questioning of students and their parents on the readiness of the population to perceive energy conservation competence was conducted. The studies have shown the need to modernize the content of modern education in Ukraine in the context of expanding the concepts of environmental competence, its energy conservation component.*

JEL Classifacation: I21

Introduction.

The International Energy Agency (IEA) noted that the European Union (EU) has achieved the best results in the field of energy efficiency among the entire world community. Back in 2016, the IEA predicted that due to the implementation of energy efficiency policy in the EU, the demand for primary energy would decrease by 15% by 2040, with economic growth by 55% (World Energy Outlook, 2016). In 2011 The European Parliament and the Council of the EU adopted a basic energy policy document – "Energy Strategy 2050", the main idea of which is to achieve full independence from coal, oil, gas and the transition to "Green Energy" (2050 Summary the energy strategy Energy, n.d.). Such ambitious plans the EU government plans to implement through energy conservation policy, which includes a number of programs and tools to support the development of energy efficient technologies. An example of such programs is "THERMIE", which is mainly funded by BMWi (BMWi, n.d.) and provides support for the development of energy efficient technologies in the field of PES ("Primary Energy Sources", n.d.), rational use of energy in industry, building and transport, cleaner and more efficient use of solid fuels and hydrocarbons (Thermie Network - Events, n.d.).

The program ELENA (European Local Energy Assistance) is a joint initiative of the European Investment Bank and the European Commission in the framework of the program "Horizon 2020", which provides grants for the implementation of efficient transporting of energy from renewable sources, reconstruction or construction of new district heating networks etc. ("ELENA", n.d.; "Horizon", n.d.). Among such programs is energy conservation training programs – Energy Intelligent Europe, the purpose of which is to spread the ideas of energy efficiency among the community and to ensure that everyone is well-versed in energy conservation (EASME, n.d.; «European Parliamentarians' call», n.d.).

The study of the experience of teaching school-age children and their parents the basics of energy conservation in European countries will allow to predict the results of energy conservation and energy efficiency training in schools of Ukraine.

1. Analysis of relevant research.

In Ukraine in the field of energy conservation, foreign experience of energy conservation management was investigated and the possibility of applying it to the realities of the Ukrainian economy (Drobyshynets, Romaniuk, 2015). Examples of successful application of energy conservation technologies in housing and communal services in Germany and Finland (Kinash, 2017), general issues on energy conservation management in Germany, Austria, Norway, Sweden, Japan, China, Belarus and Russia (Surmenelian, 2013) are described. However, these works are far from pedagogical "field" and mainly relate to the field of economics, engineering, etc.

In foreign scientific editions the issue of studying the formation of energy conservation competence in schools is presented by works of Zografakisa N., Angeliki N. Menegaki, Konstantinos P. Tsagarakis. (Zografakis, Menegaki, Tsagarakis, 2008.) The scientists described the results of the information and educational project on energy conservation and energy efficiency, which was implemented in educational institutions of different levels on the island of Crete. Similar studies in the UK were conducted by Heba Elsharkawya, Peter Rutherford, who studied the energy conservation behaviour of 150 families in the city of Nottingham, where a program for energy conservation and energy efficiency of the CESP community was being implemented (Elsharkawya, Rutherfordb, 2018) The vast majority of European articles on energy conservation and energy efficiency in schools relates to the achievement of high-performance level of the school building (Tsikra, Andreou, 2017; Erhorn-Kluttig, Görres, Kempe, Erhorn, Thomsen, Höfle, 2016) energy audit of premises (Arambul, Giovanni, Francesca, Piercarlo, Gasparellaa, 2015), the construction of schools with "zero energy consumption" (Testi, Rocca, Menchetti, Comelato, 2017; Berardia, Mancaa, Casaldaligab, Pich-Aguilera, 2017; Erhorn-Kluttig, Erhorn, 2014) or the study of strategies to improve the energy efficiency of an existing school building through its reconstruction (Loreti, Valdiserri, Garai, 2016). Saska Petrova, Miguel Torres Garcia, Stefan Bouzarovski (Petrova, Garcia, Bouzarovski, 2017) devoted their works to research in the field of ecological education and teaching students the basics of energy conservation.

Rachel A. Howell, Simon Allen (Rachel, Howell, 2016) studied the motivation of teachers and their willingness to work on the formation of ecological and energy conservation competence of pupils. Scientists from Sweden G. Fauville, A. Lantz-Andersson, R. Säljö studied the use of ICT in the formation of ecological competence of schoolchildren (Fauville, Lantz-Andersson, Säljö, 2014). They summarized the research aimed at the integration of information technologies and digital tools in the educational process in order to teach pupils the basics of ecological and energy conservation behaviour.

Taking into account the state of the study of foreign experience in the formation of school-age children and their parents energy conservation competence, the aim of the article is to study the experience of teaching the basics of energy conservation in schools of the most economically developed countries of the European Union on the example of Italy, Germany and France. In the summer 2018, a non-profit organization, the American Council for an Energy-Efficient Economy (ACEEE), conducted a study to assess the energy efficiency strategy of 25 countries, which are the largest energy consumer in the world. In order to rank the countries with the most effective strategy, 36 indicators were taken into account, including energy savings, energy efficiency of buildings, industry and transport. According to the results of studies presented on the official website of ACEEE the first places were taken by European countries: Italy, France and Germany (American Council for an Energy-Efficient Economy). It was this rating that determined our interest in choosing countries in which we studied the experience of teaching the basics of energy conservation in schools.

2. Promotion of energy conservation in German schools

In the school course of physics in Germany topic “Energie” (from German – energy) is compulsory according to Lehrplan Physik Bildungsgang Real (curriculum of the secondary school) (“[Ebook]. Lehrplan Realschule Physik”, n.d.) Although in the German education system such curricula may change in accordance with the federation, this does not affect the list of main topics. For example, in the school curriculum of the Central Federation of Hesse for secondary school (Realschule) the topic “Energie” is studied in the 10th grade. This section focuses on energy use and consumption and is closely related to climate protection. Particular attention is paid to the use of renewable energy sources, which is an important factor in the supply of energy in the future. The purpose of the study of this topic in the document indicates pupils’ understanding of the notion energy and the ability to use this concept in all spheres of life. Among studied topics “Energy and electricity”, “Energy and heat”, “Energy Conversion” the work of nuclear power plants and thermal power plants, alternative energy sources, renewable energy sources, solar panels, etc. are studied in the school. In addition to these topics, the curriculum provides study of the topic “Energy and demand”, which includes gaining knowledge on energy consumption of household appliances and energy needs of the private household. There is also an optional course on the use of energy conservation technologies in everyday life and the study of international energy problems.

After studying the relevant topic, it is expected that pupils will master the ability to take readings from meters and will be able to perform energy consumption calculations, use energy conservation measures in everyday life, share knowledge with third people (energy conservation weeks at school, information boards, etc.), cooperate with experts or expert groups on energy conservation ("[Ebook]. Lehrplan Realschule Physik", n.d.).

However, the study of energy conservation in German schools is not limited to the curriculum or other educational documents. Thus, at the end of 2008, the German Federal Ministry for the environment, nature protection and nuclear safety (Bundesministerium für Umwelt, Naturschutz und nukleare Sicherheit, BMU) launched the fullest programme of funding for educational activities in the field of climate protection and supported specific projects in schools and other educational institutions. Today, the Ministry provides more than 3,4 million euros to promote ideas and projects in schools that contribute to the reduction of CO2 emissions, finances the program "Aktion Klima!" from BildungsCent eV. ("BMU: Bundesministerium für Umwelt, Naturschutz und nukleare ...", n.d.).

With the support of the Ministry, the non-profit organization BildungsCent eV has implemented more than thirty projects since 2003, covering almost 5500 schools and educational institutions across Germany. All programs of the organization are aimed at the development of the school as a space where pupils develop their potential, take an active part in the formation of school life and solve environmental problems. The average duration of each project was just over three months ("BildungsCent e.V.: Startseite", n.d.).

Member companies of the German Association of Energy and Water Management (BDEW) are engaged in energy conservation in schools. Members of the Association introduce numerous projects, excursions, competitions or contests on the topic of conservation and efficient use of energy in schools throughout Germany. This applies to both teachers and pupils of different types and levels of schools. Today there are 12 environmental projects, including the competition for sustainable development Yooweedoo-Sdeenwettbewerb, the international youth science Olympiad and the national day for specialists of ecology specialties – "Green Day". Many BDEW member companies organize study tours for schools. In order to organize an excursion to the nearest plant, the teacher should only go to the BDEW website, open the interactive map and choose an excursion or contact the local energy company. For example, the Museum of glass "Wertheim" developed an interactive course with 28 game stations. The main attention is paid to the topic of energy conservation ("BDEW - Bundesverband der Energie- und Wasserwirtschaft | BDEW", n.d.). To discuss a variety of issues with real experts, teachers can bring in experts from the energy industry to their classroom, taking advantage of the offer "Experten an die Schulen" (from German – Experts to schools). An important part of BDEW's work is educational training for schoolteachers. Each teacher can be trained on energy issues, discuss their own experience on the topic of energy conservation, exchange ideas and get specific theoretical or practical assistance (BDEW, n.d.).

Funding for school projects is a powerful incentive for the participation of the school community. So 36 schools participating in the project on energy conservation in Potsdam schools (EEP) received bonuses of almost 60 thousand euros for their work on the topic of energy conservation and climate protection (Energieeinsparprojekt an Potsdamer Schulen).

Berlin students are also involved in teaching pupils and teachers. Twice a year, the Freie Universität Berlin opens its doors to pupils. During the week, students hold about 80 seminars on various topics in six different educational institutions of the city and during this period lecture halls, weather station, cafeteria and Botanical time turns into laboratories and creative workshops for children ("SchülerUni Nachhaltigkeit + Klimaschutz Freie Universität Berlin", n.d.) .

3. Promotion of energy conservation in French schools

In France, work in the field of education focuses on teaching the basics of energy conservation and energy efficiency, and the educational problems associated with energy are in the gradual construction of a scientific concept, as well as determining the role of energy efficiency in the sustainable development of the country. The notions associated with energy, pupils study already in the 3rd grade. According to the primary school curriculum, children are introduced to renewable energy sources, energy conservation, electricity generation, transportation and energy consumption, as well as thermal insulation. After primary school, children study for 4 years in college. It is the secondary level of education, which children complete at the age of 14 years and there is continuing education up to 16 years in lyceum. The topic of energy, which includes energy conservation, energy efficiency and the development of renewable energy sources, is repeated periodically throughout learning with further deepening. In college, pupils study topics related to energy, due to the curriculum that combines physics and chemistry. These lessons are organized into subgroups where pupils conduct experiments and research related to the use of energy in everyday life (Bächtold, Manuel et al., 2014).

The introduction of information activities for the school audience helps to raise awareness of people about energy conservation and energy efficiency, which contributes to the formation of energy-efficient behaviour from primary school age. French teachers are supported by the Watty School government programme, which is supported by local authorities and is designed to raise the awareness of primary school children about saving water and energy so that they can be agents of sustainable development ideas in their families. Since 2013, 580 schools have become part of this program, which is about 65000 pupils. Within the framework of this program, special presentations, videos, animation and other resources have been developed for teachers, which are freely available, in addition, the participants of the program take part in the National environmental competition, which brings together pupils of all schools ("Watty à l'école, apprendre aux enfants les économies d'énergie", n.d.).

The local government also pays attention to the school buildings. The Auvergne-Rhône-Alpes region has launched an ambitious renovation project to improve the energy efficiency of 9 secondary schools. To meet this challenge, EDF Company (Electricite de France), one of the leading providers of energy services in France, together with its subsidiary Dalkia, has established a consortium to develop and implement energy conservation works. The goal of the project is to reduce energy consumption by 40%, reduce greenhouse gas emissions by 40%, achieve the share of renewable energy supply for all nine schools at 22%. The first results are expected in September 2019 ("EDF France – 1er électricien mondial", n.d.).

France is a kind of world centre for energy conservation and energy efficiency training. Every day, the French office of the Foundation for European environmental education – Teragir, works to develop the idea that energy conservation is a source of savings and social protection of the population. Today, the organization implements its projects in schools in 75 countries through seven programs: "Blue flag", "Green key", "World forest day", "Young reporters for the environment", "Water researchers" and the international program "Eco school" (Eco-Ecole). Since its inception, the "Eco-school" programme has been supported and sponsored by the French Ministry of national education and other government agencies. The program offers methodological support for schools at all levels to implement seven specific steps for sustainable development ideas: building a school team, planning activities, forecasting results, implementing steps, establishing communication, accepting assistance, creative presentation of results. It is based on mobilization of all participants of educational process: pupils, teachers, heads, administrative and technical workers, and also parents. The program allows schools to choose the direction they work on during the year, among the priority topics: food, waste, water, energy conservation, health and climate. At the end of the school year, schools can apply for their certification. The jury, which includes representatives of the Agency for environment and energy management, assesses the effectiveness of the steps taken and awards pupils and project partners. Eco-Ecole was developed in France in 2005, during this time about 2500 schools in France and more than 50000 schools around the world were involved in this project ("Eco -ecole", n.d.).

4. The promotion of energy efficiency in Italian schools

In Italy, much attention is paid to consumer awareness of energy conservation, energy efficiency and energy conservation behaviour at home. In particular, educational activity in this direction takes place in schools of all levels, i.e. kindergartens, primary and secondary schools of the 1st and 2nd grades. The training is addressed not only to pupils, but also to teachers and parents, who are also involved in the study of the rational use of energy and the use of renewable energy sources. State educational institutions of Italy have didactic, organizational and research autonomy and can implement experiments in the educational process and participate in developing projects of environmental direction ("Ministry of Education, University and Research, Italy", n.d.).

An example of such a project is the educational online platform of Estra company dedicated to the training of teachers, pupils and their parents on the basics of energy conservation and energy efficiency. Estra today is a diversified company that is active in Italy at the national level. For primary school, with the support of Estra, a unique ROARR project has been created that combines ecology and theatre. For the secondary school, there are competitions combining experiments and innovations: such activities are aimed at teamwork and require classes to offer ideas for energy conservation and energy efficiency. Teachers are offered the development of lessons, interactive exercises for use in the classroom. The project was created thanks to the cooperation of the energy company Estra and the cultural Association Straligut Teatro, which allowed to involve in the organization of energy conservation promotion among the school community and families (Environmental project "ROARR! ", n.d.).

The non-profit Association Legambiente (Environment League), which is a partner of Estra and has the support of the European Environmental Bureau (EEB), also conducts a number of environmental projects for schoolchildren. The educational sector of this organization Legambiente Scuola e Formazione is a professional association of teachers and educators recognized by the Ministry of Education as a subject of qualification for the school personnel training. For children of all ages there are summer environmental camps and volunteer camps, which are located in the environmental centres of the organization Legambiente throughout the country. The role of animators and educators in such camps is performed by teachers who belong to the National register of environmental educators and are qualified in the field of energy conservation and environmental education (Legambiente. "School and training environment League", n.d.).

Some Italian companies work in the field of energy conservation and energy efficiency both locally and internationally. Founded in 1989 as a non-profit association and subsequently transformed into a cooperative, Ökoinstitut Südtirol (from German – Ecological Institute) works on the development, implementation and consultation of specific ecological projects of both public and private companies. Ökoinstitut offers a unique project for schools, during which the educational institution receives a certificate confirming the status of "Environmental school". At the beginning of the school year, the school administration must sign a declaration of intention to participate in the project. Finally, in order to obtain the certificate "Ecological school" it is necessary to implement a number of measures and meet the criteria for both educational and administrative aspects. The aim of this pedagogical approach is to provide young people with basic knowledge on energy conservation and energy efficiency. As the school itself is the place of formation of the society of the future, these aspects are of great importance and are considered in all classes, adapting the content to the appropriate age of pupils. Another important condition for certification is related to the administration of the school. First of all, Ökoinstitut consultants conduct an initial energy audit to determine the actual problems of the building. To address these issues, the school provides guardians and technical staff for more

ecological management of the entire structure. If during the school year the school will be able to fulfil all the requirements, the institution receives a diploma “Ecological school”, which allows using this title in further work and receiving financial support (“Institute for economic & social development...”, n.d.). To ensure this certification, however, it is necessary that, even in subsequent years, the school continues to provide environmental training for its pupils and workers, for the conscious use of energy resources.

5. Ukrainian realities

The main conclusion for Ukraine should be the understanding that without a real economically justified state program aimed at the development of energy conservation and energy efficiency, it is very difficult to achieve positive results. The problem is complicated by a number of investment attractiveness of the energy conservation sector, which is preconditioned by factors such as corruption, lack of sufficient protection of property rights, instability of the legal field, etc. If we talk about the main school and the school curriculum of 7-9 grades, the issues of conservation of resources and energy-conservation technologies are mentioned in the physics course in the 8-th grade in the study of the topic “Thermal phenomena”. The issue of thermal energy and methods of conservation energy resources is revealed in the paragraph at the end of topic and the material is mostly exploratory in nature and is not specified in the main conclusions of this section (Bariakhtar, et al., 2016).

In high school, the curriculum of 10-11 grades in physics provides 2 hours of generalizing classes, in which the teacher must choose such forms of work that pupils realize the role of heat power in the economy and social life, as well as understand the ecological threats regarding the use of thermal machines. On the positive side, the curricula in all subjects highlight contain, among others, a cross-cutting content line: “Ecological safety and sustainable development” (“Education in Ukraine - MFA of Ukraine”, n.d.).

However, in the realities of Ukrainian education, the teacher is left to himself with this question. On the one hand, the state declares the need for the formation of ecological competence of the applicant of education, and on the other hand at the state level there is no active promotion of the principles of energy conservation behaviour among the population, and not enough attention is paid to the training of teachers. The situation is aggravated by the state policy on energy conservation, which does not really stimulate energy efficiency activities: subsidies and cross-subsidies, lack of competition and inefficient use of energy resources due to the existence of state ownership, lack of affordable long-term lending, corruption schemes in the provision of financing for energy conservation and energy efficiency projects, etc. Thus, in Ukraine the question of the need for radical structural changes in the areas of energy conservation, resource saving and, in general, the energy industry is more acute than ever. In the future, such steps will obviously affect various industries and agriculture. Mainly in solving the problems of energy conservation, the general competence of people, who will make decisions and implement them, will play an important role. Responsible workers should be prepared for energy challenges and ensure a transparent, efficient process of managing energy enterprises.

The competence of people in the field of energy conservation and energy efficiency will play an important role in this issue. It is important to begin to form the appropriate competence at school age and continue throughout life. To do this, it is obviously necessary to implement measures for the training teachers, and promotion of the principles of energy conservation among pupils and their parents (Tsapenko, Moroz, 2017).

Table 1. Questionnaire «Energy Efficiency and Energy Conservation»

№	Questions	Yes (%)	No(%)
1	Do you think that it is necessary to use fuel and energy resources of Ukraine economically?	97,9	2,1
2	Do you know what the current tariffs for energy supply in your home are?	56,4	44,6
3	Do you know how many kW of electricity your family uses per month?	43,6	56,4
4	Do you turn off the light when you leave the room?	90,2	9,8
5	Does your family use energy-saving lamps?	95	5
6	Do you know how to reduce heat loss in the apartment?	65,8	34,2
7	Would you like to learn more about alternative energy sources in the lessons?	88,6	11,4
8	Would you like to learn more about energy conservation and energy efficiency at school?	90,1	9,9
9	Do you get enough information on energy conservation at school?	46,4	53,6
10	Do you know what energy conservation measures are carried out in Ukraine?	35,2	64,8
11	Do you know what modern energy conservation measures are carried out in European countries?	55,8	44,2
12	Do you keep a record of your monthly energy consumption?	80,3	19,7
13	Are heating batteries closed at your home (by curtains or furniture)?	59,8	40,2
14	Do you use dual-zone electricity meters?	25,7	74,3
15	Do you know information about “Green tariffs”?	39,8	60,2
16	Do you know the practical methods and measures to reduce heat loss in the apartment and house?	88,3	11,7
17	Have you tried to reduce your electricity consumption at home?	86,5	13,5
18	Do you feel the burden on the family budget during the heating season, when you have to pay for heating the apartment or heat the house?	89,4	10,6
19	Do you think that the school should tell pupils about energy conservation and energy efficiency?	95,8	4,2
20	Are you ready to take part in the energy conservation contest at your own home?	33,5	66,5
21	Do you think that alternative energy sources should be developed in Ukraine?	97,5	2,5

In the law of Ukraine on education, the goal of complete general secondary education is achieved through the formation of key competencies, including ecological competence (Law of Ukraine. 2017). However, today in Ukraine there is no single approach to the definition of environmental competence. Ukrainian formulate the concept of ecological competence researchers in different ways L. M. Tytarenko, V. V. Marshytska (Tytarenko, 2007; Marshytska, 2005), S. P. Levkiv (Levkiv, 2014) and in their works ecological competence is not associated with the concepts of energy conservation and efficiency. In the realities of the Ukrainian energy industry, the issue of the formation of energy conservation competence as a separate competence of the individual is relevant and even necessary, which will be a reflection of the key environmental competence.

Readiness of pupils of the basic school and their parents to study bases of energy conservation and energy efficiency at school, and also studying of level of awareness of the population of questions of energy conservation and possession of skills of energy-efficient behaviour were investigated in the works of I. Moroz and M. Tsapenko (2017) who conducted a questioning within one regional centre.

To talk about the readiness of the population of Ukraine to perceive energy-conservation competence, we expanded the geography of the study and conducted a questioning in educational institutions among pupils and their parents in five cities of the country, mainly regional centres: Kharkiv, Lviv, Kyiv, Zaporizhzhia and Chernigiv. The questioning was conducted using Google forms, the result was 325 completed questionnaires. The results of the questioning are presented in the table. Although the number of respondents is small, but in our opinion it reflects the general state of the matter.

The study indicates pupils and their parents understanding to take steps in the field of resource conservation – 97,9% of respondents. Although only half of the respondents are interested in energy tariffs, the same number of respondents are interested in energy conservation measures in other countries. In our opinion, this indicates a lack of coverage of the state energy conservation policy in the media and school. The results of the questionnaire predictably show that pupils and their parents are interested in energy conservation: more than 80% of respondents expressed a desire to get more information about alternative energy sources and, in general, about energy conservation for sustainable development. The carried out researches allow speaking about the need to modernize the content of modern education in the framework of the reform of the Ukrainian education system and to expand the concept of ecological competence, enabling and energy conservation component. Training the basics of energy conservation and energy efficiency of pupils and appropriate training of teachers will contribute to the implementation of the current Law of Ukraine “On energy conservation” (Law of Ukraine, 1994).

Conclusions.

Educational activities in Europe on energy conservation and energy efficiency are supported at the state level. State energy companies are committed to organisation education for school-age children, informing pupils’ parents, and training teachers. Public institutions in all regions of the country finance school education programmes and energy conservation projects, train teachers in the field of energy efficiency, support non-profit climate protection companies that develop educational materials for children, information and methodical materials for teachers, organize competitions and contests for children on ecological issues. EU countries actively support international projects on energy conservation and energy efficiency. Today, the school community around the world is joining the idea of conservation energy and ideas for sustainable economic development. The issues of energy conservation and energy efficiency are included in the school curriculum and studied in France and Italy, starting with primary school and kindergarten, and in Germany, the issues of energy conservation are studied, starting from the middle school level.

Taking into account the current state of development of the energy industry and energy dependence of the economy of Ukraine, inefficient system of transportation of energy carriers and high energy tariffs for the population, the study of the experience of advanced countries in the field of energy conservation and energy efficiency are not just interesting, but extremely important for Ukraine.

The study of the experience of the leading countries with the most effective economic strategy in the field of energy efficiency suggests that the formation of energy conservation competence of the population should be an important component of the state policy in the field of education of Ukraine.

References

ACEEE (2018). Retrieved from https://aceee.org/research-report/i1801.

Arambul R., Giovanni L., Francesca P., Piercarlo C., Gasparellaa A. (2015). Energy audit of schools by means of cluster analysis. *Energy and Buildings* 95, no. 15 (May): 160-171. DOI:10.1016/j.enbuild.2015.03.036 [in Italy].

Bächtold, M., Manuel, V. et al. (2014). "Quelle progression dans l'enseignement de l'énergie de l'école au lycée? Une analyse des programmes et des manuels. *RDST. Recherches en didactique des sciences et des technologies,* 10, 63-91.

Bariakhtar, V. H., & Dovhyi S, O. (2015). *Physics: textbook for the 8th grade of secondary schools*. Kharkiv: Ranok. [in Ukraine].

BDEW (2018). Bundesverband der Energie- und Wasserwirtschaft | BDEW. Retrieved from https://www.bdew.de/

Berardia, U., Mancaa, M., Casaldaligab, P., Pich-Aguilera, P. (2017). From high-energy demands to nZEB: the retrofit of a school in Catalonia, Spain. *Energy Procedia* 140, 141-150. DOI: 10.1016/j.egypro.2017.11.130.

BildungsCent e.V.: Startseite. Retrieved October 21, 2018, from https://www.bildungscent.de/

BMU: Bundesministerium für Umwelt (2018). Naturschutz und nukleare . Retrieved from https://www.bmu.de/

Drobyshynets, S., Romaniuk, N. (2015). Foreign experience in the field of energy conservation. *Modern technologies and methods of calculation in construction,* 4, 48-55.

EC (2018a). Horizon 2020. Retrieved from. https://ec.europa.eu.

EC (2018b). Intelligent Energy Europe. Retrieved from https://ec.europa.eu/easme

Eco-ecole (2017). International educational program Eco-ecole. Retrieved from https://www.eco-ecole.org.

Ecoistituto (2017). Institute for economic & social development. Retrieved from http:// http://www.ecoistituto.it

EDF (2017). France – 1er électricien mondial. Retrieved from https://www.edf.fr/

Elena – European Local ENergy Assistance. Retrieved August 21, 2018, from https://www.polisnetwork.eu/uploads/Modules/PublicDocuments/elena_en.pdf.

Elsharkawya H., Rutherfordb P. (2018). Energy-efficient retrofit of social housing in the UK: Lessons learned from a Community Energy Saving Programme (CESP) in Nottingham. *Energy and Buildings* 172 (1), 295-306.

Energieeinsparprojekt an Potsdamer Schulen. Accessed October 21 2018. https://www.energieeinsparprojekt-potsdam.de.

Energieverbraucher (2018).. European Parliamentarians' call for an Energy Intelligent Europe Making Europe the most energy efficient society in the world by 2020. Retrieved from https://www.energieverbraucher.de.

Erhorn-Kluttig, H., Erhorn, H. (2014). School of the Future - Towards zero emission with high performance indoor environment. *Energy Procedia,* 48, 1468–1473. DOI:10.1016/j.egypro.2014.02.166.

Erhorn-Kluttig, H., Erhorn, H., Höfle, C., Görres, J., Thomsen, K. E. (2016). EU Project "School of the Future"-Refurbishment of School Buildings Toward Zero Emission with High-Performance Indoor Environment. *Ashrae Transactions* 122 (1), 315-326.

Fauville G., Lantz-Andersson A., Säljö R. 2014 "ICT tools in environmental education: reviewing two newcomers to schools." *Environmental Education Research* 20, no. 2: 248-283. https://doi.org/10.1080/13504622.2013.775220.

Kinash, I. P. (2017). Energy conservation and use of alternative energy sources in housing sector: foreign experience. *Economic forum* 2, 12-17.

Kultusministerium (2018). Lehrplan Realschule Physik. Retrieved from https://kultusministerium.hessen.de

Law of Ukraine. (1994).On energy conservation. Database Legislation of Ukraine, 74/94-BP. Retrieved April 08, 2019, from http://zakon4.rada.gov.ua/laws/show/74/94-%D0%B2%D1%

Law of Ukraine. (1998). On state regulation of extraction, production and use of precious metals and precious stones and control over operations with them of 18 November 1997 № 637/97. *Information of the Verkhovna Rada of Ukraine* 9.

Law of Ukraine. (2017). Law of Ukraine on education." *Database "Legislation of Ukraine*, 2145-VIII." Retrieved April 14, 2019, from http://zakon.rada.gov.ua/laws/show/2145-19.

Legambiente. School and training environment League. Retrieved November 20, 2018, from https://www.legambientescuolaformazione.it.

Levkiv, S. P. (2014). Formation of ecological competence of students in biology lessons. *Modernization of higher education in Ukraine and abroad,* 223-229.

Loreti, L., Valdiserri, P., Garai, M. (2016). Dynamic Simulation on Energy Performance of a School. *Energy Procedia* 101, 1026-1033. DOI:10.1016/j.egypro.2016.11.130.

Marshytska, V. V. (2005). Essential characteristics of ecological competence of primary school students. *Theoretical and methodological problems of education of children and students* 2 (8), 20-24.

Ministry of Ecology and Natural Resources of Ukraine (2019). Illegal mining of amber threatens the ecosystem of Rivne region." Retrieved from https://menr.gov.ua.

Ministry of Education, University and Research Italy (2018). Retrieved from http:// www.miur.gov.it.

MON (2019). Education in Ukraine - MFA of Ukraine. Retrieved from https://mon.gov.ua/ua/osvita

Non-profit Association Legambiente (2018). Retrieved from https://legambiente.it.

Petrova, S., Garcia, M., Bouzarovski, S. (2017). Using action research to enhance learning on end-use energy demand: lessons from reflective practice. *Environmental Education Research* 23 (6), 812-831. DOI:10.1080/13504622.2016.1144177

Rachel, A., Howell, S. (2016). Significant life experiences, motivations and values of climate change educators. *Environmental Education Research,* 1-19. DOI:10.1080/13504622.2016.1158242.

Roarr (2018). Environmental project "ROARR!" Retrieved from. https://www.roarr.it.

SchülerUni Nachhaltigkeit + Klimaschutz Freie Universität Berlin. Retrieved October 21, 2018, from https://www.fu-berlin.de/sites/schueleruni/index.html

Summary the energy strategy 2050 – from coal, oil and gas to green energy. Retrieved August 20, 2018, from http://dfcgreenfellows.net/Documents/EnergyStrategy2050_Summary.pdf

Surmenelian, O. R. (2013). World experience of energy conservation management. *Economics and management of machine-building enterprises: problems of theory and practice* 2, 96-108.

Testi, D., Rocca, M., Menchetti, E., Comelato, S. (2017). Criticalities in the NZEB retrofit of scholastic buildings: analysis of a secondary school in Centre Italy. *Energy Procedia* 140, 252-264. DOI:10.1016/j.egypro.2017.11.140.

Thermie network (2018).. Retrieved from http://thermienet.eu.

Tsapenko, M. V., Moroz, I. V. (2017). The importance of creating energy conservation competence of pupils at lessons of physics. *Physical and mathematical education* 2(6)16,141-146.

Tsikra, P., Andreou, E. (2017). Investigation of the Energy Saving Potential in Existing School Buildings in Greece. The role of Shading and Daylight Strategies in Visual Comfort and Energy Saving. *Procedia Environmental Sciences* 38, 204-211. DOI: /10.1016/j.proenv.2017.03.107.

Tytarenko, L. M. (2007). Formation of ecological competence of students of biological specialties of the university. PhD diss., National Pedagogical Drahomanov University of Kyiv.

Watty (2017). Watty à l'école, apprendre aux enfants les économies d'énergie. Retrieved from http://watty.fr/

World Energy Outlook (2016). EXECUTIVE SUMMARY. Accessed https://www.iea.org.

Zografakis N., Menegaki A., Tsagarakis K. (2008). Effective education for energy efficiency. *Energy Policy* 36 (8), 3226-3232. DOI:10.1016/j.enpol.2008.04.021.

Tetyana Kolgan
Candidate of Pedagogical Sciences,
Dean of the Faculty of Pedagogical Training,
Donetsk Regional Institute of Postgraduate Pedagogical Education
Anna Hladkova
Head of the Department of Methodological Services' Coordination,
Donetsk Regional Institute of Postgraduate Pedagogical Education,
Slovyansk, Donetsk region, Ukraine

INNOVATIVE EDUCATIONAL ENVIRONMENT AS A CONDITION FOR THE DEVELOPMENT OF PROFESSIONAL COMPETENCE OF PEDAGOGICAL WORKERS

Abstract. *The purpose of the article is to elucidate the essence and content of the concepts "environment", "educational environment", "innovative educational environment", discussion and substantiation of the content of the structural components of the innovative educational environment. The analysis of scientific and methodological literature has shown that in the modern pedagogical science the definition of the innovative educational environment prevails as a complex of interconnected conditions that ensure the education of the person throughout his life, the formation of the new teacher, who can become an agent of change. The multi-vector problem of the innovative educational environment development is not limited to the proposed analysis. Further research will focus on the effectiveness of the functioning of the innovative educational environment of the Department of Management and Administration of the Donetsk Regional Institute of Postgraduate Pedagogical Education.*

JEL Classifacation: I20

Introduction.

The reforms of the modern educational system in Ukraine are aimed at creating all the necessary conditions for the development of professional competencies of teachers, improving the professional skills of teaching staff in the system of postgraduate education, which is in a state of reform and of a complex nature. Innovative processes in the field of post-graduate pedagogical education require the creation of an innovative educational environment aimed at the implementation of strategic goals and objectives of educational development. Only innovative, by its very nature, education can educate a person who lives in accordance with modern innovative laws of globalization, is a fully developed, self-sufficient, self-sufficient, highly cultured, spiritually lofty and creative person capable of self-government, independent decision-making, choice of meaning of life (Karleszko, 2017).

Improvement of postgraduate pedagogical education is carried out in the context of such global educational tendencies. These tendencies are the mass character of education and its continuity, "education throughout life"; adaptation of the educational process to the needs and needs of the individual; orientation on the democratization of all educational structures; orientation of education on innovation; introduction of credit-module training system; creating an innovative educational environment, etc. (Shapran & Shapran, 2010).

The analysis of the source base proves that the problem of the development of the innovative educational environment in modern pedagogy is represented by such leading areas. These areas are the educational environment for the development of the individual (V. Madzihon, K. Prykhodchenko, V. Stepanov, etc.), innovative pedagogical technologies in the organization of the educational process in higher educational institutions (I. Bohdanova, O. Yevdokymov, I. Kozlovska, V. Khymynets, etc.), certain issues of formation of the educational environment (L. Buiev, Yu. Manuilo, L. Novikov L., etc.), and the problems of creating educational environment.

The study of scientific sources testifies that the work of outstanding teachers and scholars as I. Bekh, N. Bibik, L. Vashchenko and others is devoted to research of problems of educational and pedagogical innovations, innovative development of educational systems and innovative processes.

The leading scientists H. Vasyliev, N. Hladchenkova, Yu. Koliutkin, M. Sokolovskyi and others made significant contributions. Their efforts developed the concept of the educational environment.

However, in scientific publications devoted to the research of the innovative educational environment, issues of professional development of teachers in the conditions of an innovative educational environment in the system of postgraduate pedagogical education are not considered properly.

The purpose of the article is to investigate and define the role of the innovative educational environment of the system of postgraduate pedagogical education in the development of professional competence of teachers.

According to the research goal, the following tasks are defined:

1. To find out the essence and content of the concepts of "environment", "educational environment", "innovative educational environment" on the basis of the analysis of scientific literature;

2. To characterize the content and structural components of the innovative educational environment;

3. Determine the pedagogical conditions for the formation of an innovative educational environment;

4. To check the pedagogical conditions of formation of innovative educational environment in the system of postgraduate pedagogical education experimentally.

1. The content and structure of definitions "innovative educational environment"

The professionalism of a teacher depends on the level of professional competence, the development, and introduction of innovations in the educational process. Formation (development) of professional competence of a teacher is carried out under the influence of a specific environment, so-called innovative educational environment.

In the scientific and methodical literature, the terms "environment", "educational environment", "innovative educational environment" are recently used very often.

The term "environment" reflects certain conditions that interact with the development of a person, who changes this environment to achieve an abundant and social purpose.

The notion of "educational environment" is narrower in its meaning. it is often understood as the area of a particular educational institution. The educational environment is a set of social, cultural, material, spatial, and substantive factors and interpersonal relations. All these factors of interaction affect each subject of the educational environment, but people also have some influence on it (Polat, 2012, Tkachuk, 2015).

In A.Kukh's opinion, the educational environment consists of three components. One of them is subjective-resource component, which includes interconnected purposeful innovative activity of participants of the educational process. The second one is material and technical component, which involves availability of certain innovative infrastructure in the region. The third one is ideological and technological component, which attracts application of technologies in the education system. That is, the improvement of the traditional pedagogical process based on the new achievements of science (Shapran & Shapran, 2010, p.110).

Innovative educational environment is reviewed as a complex of interconnected conditions that ensures the formation of a person throughout his life, the formation of a personality of a new teacher, who can become an agent of change, his professional competence.

L. Vashchenko emphasizes that an innovative educational environment has its own organizational and functional structure as a system education of a certain region. The scientist defines several main components. They are strategy, organizational support and forecasting of the development of education in the region; the tactics of the formation of innovative processes and the content of the innovation environment in the region (Shapran & Shapran, 2010, p.109).

Taking into account that each of the elements of the structure reflects the innovative educational environment with the direction of change, L. Vashchenko outlines the main levels of its development:

- Adaptive level is common to educational institutions, where teachers decide on the issues of updating the content of education, teaching technologies, etc. They are aware of the necessity for changes in education.

- Professional and productive level means the transition to the scientific and methodological basis of management activities. The creation of a system for the formation of professional competence of teachers is of great necessity.

- Creative level means the adoption of new values of education, which are subsequently transformed into school practice, where the level of innovation changes is achieved as a result of the work of constantly functioning seminars, workshops, designing a program for the development of educational institutions, etc .;

- Strategic and Target Level is an adoption of a new strategy for the development of the institution of education, integrity, internal unity and interaction of all components of the innovation process (Vashchenko, 2008).

We agree with Vashchenko that the innovative educational environment is a set of pedagogical conditions created for the implementation of the initiative and search, namely the personally oriented approach to its creation, taking into account the pedagogy of the partnership; the focus on education throughout the life of each participant in the educational process; application of innovative technologies, etc. Consequently, the innovative educational environment plays an important role in the process of training regional educators in the system of postgraduate pedagogical education.

2. Innovative educational environment in the system Postgraduate pedagogical education

The research was carried out in accordance with the Working Plan of the Donetsk Regional Institute of Postgraduate Pedagogical Education and the general research theme "Designing an Individual Trajectory for the Professional Development of Teachers of the Region" in terms of the strategy of" Life-long Learning ".

Implementing the theoretical positions into practice and considering the interdependence of the innovative educational environment and the development of professional competence of methodical, managerial, and pedagogical staff, we set up the task to design a system of the innovative educational environment of the Department of Management and Administration of the Donetsk Regional Institute of Postgraduate Pedagogical Education. The Department's leading scientific and research topic is " The formation of strategies for professional development of education managers on the basis of Andragogy". First and foremost, we took into account the opinions of scholars that the innovative development of an educational institution is due to the innovative activity of the teaching staff (Tkachuk, 2015, p. 126). Based on the aforementioned, the Department of Management and Administration of the Donetsk Oblast Institute of Postgraduate Pedagogical Education launched the activity of the educational regional level of the laboratory "Modern Trends in Education", which includes the 8th educational clusters. Including:

"Affordable Education", in which participants are heads of educational institutions, pedagogical workers, who are experienced in working in distant format and working in specialized ICSE or in inclusive classes. They master the problem of introducing elements of distant learning in order to work with children with special educational needs. The activities of the participants are aimed at spreading knowledge about the use of distant education tools in the inclusive school among the educational staff in Donetsk oblast. The result of the laboratory's work will be methodical guides. They are about the use of elements of distant education for students from the PLO on the main nosologies; visual impairment, hearing, speech, intellectual development.

"STEM-education". STEAM-education is a combination of Natural Sciences, Technologies, Engineering, Art, and Mathematics. It has already become one of the main educational trends and the basis for the development of activity, competence, entrepreneurial skills. The Laboratory has been operating for two years, expanding the scope of projects, the number of integrated projects in the projects and the range of participants, including deputy directors of general secondary education institutions, managers, and methodologists of the MC, heads of methodological associations. The aim of the activity was to increase the professional competence of the methodical service workers of different levels of the region in the development and implementation of the integrated practice of STEAM projects on the basis of the combination of programs of various subjects. The expected result will be an increase in the professional level of participants in the development of STEM projects and their implementation in the practice of educational institutions.

"Competency education". The goal of the cluster is to increase professional competence of deputy directors of institutions of general secondary education, methodologists of MC, heads of methodological associations regarding competence of students. In the course of the work, the participants will develop a methodical basis of competence-oriented tasks, including a sample of the tasks of the international PISA study, in order to form the key and subject competences of the students. A compilation of tasks in competency will be the expected result, which will facilitate students' acquisition of non-segregated substantive theoretical knowledge, and the formation of a holistic notion of the world will teach a child to acquire this knowledge (Koval et al., 2018).

“International educational projects of social and humanitarian direction” The participants of the cluster are the heads of general secondary education, Methodist of MC. The purpose of the activity is the formation of ideological values through the means of project activity, developing and writing projects on humanitarian issues. They are based on the EU recommendations about education, the swap of experience and discussion of the results of the humanitarian projects in the educational institutions of the regional, publication of scientific and methodological recommendations on the project management in education. The expected results of the work are the developed educational projects that were created by the creative groups of institutions of general secondary education, employees of MC, preparation of a collection of methodological recommendations for the preparation of international educational projects in the social and humanitarian field.

“Management of the preparation and support of interschool debates of senior pupil teams in the languages of European countries”, the purpose of which is to train heads of institutions of general secondary education, Methodists of MC, teachers of foreign languages to organize school debates, creation of a methodological support for managing tournaments. The result of the work will be the holding of the open debates in English between the senior pupil teams, preparation and publication of a methodological guide for the debates concerning on the languages of the European countries.

“Inverted learning”, the main purpose of which is the unification and concentration of existing practices in using “inverted studying”, and/as well as popularization and spreading/sharing/dissemination of the experience gained among the teachers of the Donetsk region through sharing-events and various examples of events, such as: aquarium, non-conference, Open Space, Pecha Kucha and others. The result of the cluster will be the training of heads of educational institutions, managers, and methodologists of the MC, leaders of methodical associations, and teachers for work in the conditions of the New Ukrainian School.

“Digital design”. The participants of this laboratory cluster - Deputy Directors of institutions of general secondary education, managers and methodologists of MC, managers of methodical associations. They master such concepts as full virtual reality, mobile learning, videoblogs, videoconferences in education, using them in their practice, develop their own digital content for educational process.

“Electronic tools of a modern lesson". The goal of the cluster was the mastering of tools and services (Mentimeter, ThingLink, Lensoo Create, Tricider), which will help to make the lesson not only modern and interesting for the pupil, but also that will comply the concept of New Ukrainian School. Their members are Deputy Directors of general secondary education institutions, the managers and methodologists of the MC, the managers of methodological associations, The final product will be the guide for methodological services and ICSE on the experience of using electronic tools and services in the educational process.

The main requirements for the educational environment of the institution of education were defined according to the peculiarities of the Department's work. This work is outlined by further ways of the activity, namely: a pedagogical worker develops his professional and personal qualities as an innovator; the head of the educational institution provides the conditions for the innovation area of each teacher; the pedagogical team constantly works in the creative and search mode, and so on.

The most important task of scientific and methodological support, which was carried out by the department within the laboratory, is the development of the readiness of the region's teachers to innovate. During the courses of advanced training and especially intercultural events, systematic scientific and methodical work was established in accordance with the leading research topic of the department in general and the topics of the laboratory in particular. The activity of the scientific and pedagogical staff of the department in close cooperation with the creative working managers, methodologists, and educators of the region was focused on the development of the concept and program of the innovative educational environment. The search for the effective means of its development, the introduction of innovative elements with preliminary approbation, the monitoring of innovation activities, dissemination experience, informing about activities, etc were created too.

According to these stages the work with educators of the region was aimed at:

1. Awareness by pedagogical workers of the necessity to introduce pedagogical innovations in their own practice. They can be managerial and professional.

Intercourse activities include a number of different activities for the region's educators: theoretical and practical seminars, trainings, webinars, round tables, techno parks, fairs, Lider's pool "The Route to the Future" and the young leader "Confident Start", deputy directors of educational establishments. “Experimental work of institutions of general secondary education in the conditions of reforming of the modern system of national education", the school of the beginner-methodologist, etc. are the sphere of interests. The priority was the issue of designing the development of an educational institution under the conditions of decentralization of education, research and experimental work; the question of methodical design and practical implementation of effective models for the formation of professional competence of educators-researchers, etc.

Thus, the Department for the Coordination of the Methodological Services of the Donetsk Regional Executive Committee, coordinating the activities of the 32 methodical offices (centers) of cities, districts, united territorial communities (OTGs) of the region, considers the main vectors of scientific and methodological support of the activity of methodological services of different levels to create favorable conditions for personal and professional growth of guidance, methodological and pedagogical workers, improvement of the quality of continuous education and professional self-improvement of teachers; training of personnel for professional tasks in the conditions of decentralization and reformation of education; the implementation of project technology into the practice of MC, the transition to service activities, that is, the provision of highly qualified services that meet the specific needs of the customer. For three years, he has been working on the development of coordinated approaches to organizing methodological work in the region and management of educational institutions in the context of decentralization of power and structural reform of the system of general secondary education, training of heads of methodolical services and educational institutions for the restructuring of the regional education system. In carrying out these tasks, a discussion club "Decentralization in Education" was organized in the region, where the meetings were held discussions with the heads of ICSE, heads and methodologists of methodological services of structural reform of secondary education and the process of decentralization in education on the subject: "The essence of decentralization. The expectations of decentralization in education", "The model of regional system of methodological work in the conditions of decentralization of education management", "The models of educational centers of communities", "Educational centers of communities are concepts of development according to the leading ideas". Continuing the work of the club in 2017, the work of the regional fair "New Ukrainian School" was organized, during the meetings the issues of reforming methodological services in the conditions of decentralization and legislative aspects of creating a universal educational sphere in the united territorial community under the new Law "On Education" was considered.

A special attention is constantly paid to the increase of professional competence of newly appointed heads and methodologists of methodical services, for this purpose the School of Beginner Methodologist "The ABC of methodical work" continues to work, for which newly appointed Methodists of the Donetsk region were invited.

The study and analysis of personal educational needs of pedagogical staff under the conditions of continuity of education is carried out within the planned measures for the marketing of educational needs. The consultations for employees of methodical services of the region were organized. Diagnostic surveys to meet the content of course retraining and the most effective forms of intercourse activities were conducted. Requests and needs of employees, the work of the Web-forum "Improvement of qualification of teachers of the region: formal, education?" were provided.

According to the eight identified key components of the new Ukrainian school undergoing significant change process and content of teacher training. Since modern technologies in education have to work now, they need to be mastered, first and foremost, by methodologists themselves in the direction of implementing modern educational trends for the possibility of further developing the teaching process of pedagogues. In order to increase the professional competence of the staff of methodical services, the MC launched the work of the Regional School of Educational Technologies (RSOET), the technology parks "Modern Trends in Education" are being conducted, within which work educators get acquainted with educational trends and learn to implement them in life of modern Ukrainian school.

The Department of Management of Education and Pedagogical Innovations within the framework of its activity, considers the issue of modernization of the system of professional development of management personnel as a priority, introducing new forms of postgraduate education for this purpose: corporate education, network schools, schools of a young manager. The scientific and methodical support of the activity of the heads of regional basic schools, the study, generalization, and dissemination of innovative experience of the heads of institutions of general secondary education in order to transit to a new content are among the main directions of the department's work. The structure and term of studying, scientific, and methodical counseling on the theory and practice of management of the educational institution, studying the problems of ensuring equal access to quality education in rural educational institutions are very important. The work of the Regional School of Young Managers "Confident Start" is an integral part of the department's work for the innovative development of managers and teachers. It is the organizational and methodical support of experimental activities in educational institutions. The experiments of the All-Ukrainian level, which are being implemented in the educational institutions of the region, are diverse in topics: "Innovative Practices in Education Management", the creation of the Community of Education Management Practices, work with the OTG on decentralization in education, monitoring the effectiveness of innovation activities of

educational institutions. The department is actively involved in producing innovative ideas, the introduction of new forms, methods, and technologies of adult education; intensifies the practical orientation of the course training on the basis of the best schools, the best managers of innovators of a perspective pedagogical experience.

The organizational and methodological support of experimental activities in educational institutions is an integral part of the department's work on the innovative development of managers and teachers. The experiments of the All-Ukrainian level, which are implemented in the educational institutions of the region, are diverse in topics:

– "Philological Olympus" is being implemented on the basis of 10 ICSE: Iverskaya School of I-III degrees of Alexander district, Konstantinovka secondary school of I-III degrees № 4, Chasovoyarsk school of I-III degrees № 15 of Bakhmut, Siverska secondary school of I-III degrees № 2 of Bakhmut district, Kramatorsk Ukrainian gymnasium, Kramatorsk secondary school of I-III degrees № 3, Udachnensky secondary school of I-III degrees of Pokrovsky district, Sribnenska secondary school of I-III degrees of Pokrov district, Bakhmut NIC "School of comprihencive education I-III degrees № 11, Multidisciplinary Liceum", Konstantinovsky NIC"Gymnasium -Comprehensive school of I degree";

– "Psychological and pedagogical conditions for the formation of children's value orientations in the gaming and educational activity of the educational system " Development Enjoyment " on the basis of Druzhkovka Kindergarten № 35 "Leleka";

"Formation of ecological, economical, and social expedient of Preschoolers' Behavior in the Context of Education for Sustainable Development "on the basis of Kramatorsk Kindergarten № 67, Slavic Kindergarten № 3;

– "Creation of a health-preserving educational space of the school for

the ideas of V. Sukhomlynsky and in the context of school education innovations "on the basis of Bakhmut secondary school № III with degree education;

– "Standardization of the cross-cutting social and psychological model of mass implementation of media education in native pedagogical practice "on the basis of 4 ICSE: Svyatogorivka secondary school I-III degrees Dobropol region; Selidus Secondary School № 6 of Selidov City Council; Mirnogradsk State High School of I-III degrees № 8 of the Mirnograd City Council; Slavyansky Secondary School № 15 Slavic City Council;

– "Implementation of the competence approach in the scientific and pedagogical the project "Intellect of Ukraine". It is based on 14 educational institutions: Secondary education № 2 of Pokrovskaya, NIC № 1 Pokrovska; Secondary education № 6 of Avdeyivka city; Dobropolsk educational complex. "Specialized school of I-III degrees № 4, so-called pre-school educational institution", in Dobropil city council, Bilbasov school of I-III degrees of Slavyansky district, KS "Mariupol Gymnasium № 2 of Mariupil City Council of Donetsk Region", Nikol's'ka secondary school I – III degrees № 1, named after Yakimenko A.D., Nikolsky district, NIC "NIC I st. are in this list too. Gymnasium "of the

Mirnogradsk City Council, NSC" Gymnasium from the Secondary School of the 1st degree " are also among of them. Konstantinovka, Novogorodovska Secondary School №7, Ocheretinskaya Secondary School I-III Degrees with In-depth Study of Selected Subjects and Courses of the Yasinuvatsky District, Selidov High School of I-III Degrees № 6, Specialized school of I-III degrees № 66 of Mariupil city, Chasovoyarsk school of I-III degrees № 17 of Bakhmut city council;

– "Technology for Teaching Primary School Students" Reasoners "

(Smart kids) on the basis of NIC № 1 Pokrovska;

– "Development and implementation of teaching and methodological support elementary education in the conditions of implementation of the new State standard of elementary general education " on the basis of 4 educational institutions such as Dobropilsk educational complex". In addition, on the basis of Specialized school of I-III degrees № 4 with specific study of certain subjects of pre-school educational institution "of Dobropil city council; Illynivska specialized school of I-III grades of Konstantinovsky district; Kramatorsk Ukrainian Gymnasium of Kramatorsk City Council; KS "Mariupol secondary school of I-III degrees №29" of Mariupol city council;

– "The system of activity of the institution of advanced education in 2017-2022"on the basis of the Bakhmut NIC" School of the I-III degrees № 11 - Multidisciplinary Lyceum".

Methodical support is provided to support schools of the region. Such schools as Druzhkivka Secondary School No.17 Druzhkovsky City Council, Secondary School № 9 of the Pokrov City Council, Chasovoyarsk Secondary School № III, № 17 of the Bakhmut District Council, Svitlivka Secondary School № III of the Dobropilsky district, Ilyinivka Specialized School of I-III grades of Konstantinovsky district, NIC "Grishinsk secondary school of I-III grades. Preschool educational institution" of Pokrovsky district, Bilbasiv secondary school of I-III degrees of Slavyansky district, Ocheretins a secondary school of I-III degrees of Yasinuvatsky district, Shakhivs'ka secondary school I-III degrees of Dobropil district, Volnovasky Lyceum of Volnovasky district are also among of them.

2. *Awareness of innovative educational trends, pedagogical technologies, knowledge of innovative techniques.* The activities of the Department of International Integration are aimed at realization of this direction. Teachers' colleges of general secondary education institutions were included in international, nationwide projects: EdCamp Ukraine, Education Assistance to the Eastern Ukraine Regions Affected by the Conflict: On the Way to Change, eTwinningPlus Postcard Day, GO GLOBAL - GO CAMP","Save the Children","Workshop on Rural Initiatives", UNICEF "Learning to live together" projects,"Sadochok - a space for children","Sports for development", etc. In the context of each topic of experimental work in educational institutions, mini-projects have been developed to introduce innovative teaching technologies; pedagogical colleges are involved in grant activities aimed at the innovative development of an educational institution.

3. *Orientation of methodical, managerial, and pedagogical staff to create their own innovative products.* Examples of innovation activities within this area can serve:

– activity of city (district) methodical cabinets (centers). Thus, the process of modelling the innovative system of methodological support was carried out, including within the framework of the work of the Regional School of Innovations of Methodical Personnel (OSHNM) aimed at training the workers of a new formation ready for innovation, searching for effective models for obtaining a new quality of education. Various problems were highlighted at sessions: "Innovative forms of work with pedagogical staff as one of the ways of developing an effective system of methodological work".

The presentation of the experience of the Toretskyy methodical office and its introduction into practice of modern forms of work with teaching staff, and the use of opportunities of such interactive forms of work with teachers as debriefing, brainstorming, intervision, flower setting, tribune of free thoughts were introduced. Constructing an individual trajectory for the development of a teacher through means of project activity was introduced. "Ways of transformation and adaptation of perspective pedagogical experience into the functioning and development practice of general educational institutions" were represented. Presentation of the experience of the Mariupol methodical cabinet for creating a system of professional growth of teachers, taking into account the order for a new quality of education, developing vectors for routing educational trajectories of advanced pedagogical experience; technological aspects of advanced dissemination of pedagogical experience, and creation of a single information space was introduced too. "Project activity of the methodologist, so-called experience of project preparation" was implemented. Discussing the problem of implementation of project forms of methodical work in the practice of methodological services, the experience of the methodical service of Mirnograd city was represented in order to improve the quality of the andragogical process on the basis of project technology application,. Specific features of the application the method of projects in the system of methodical work; extended promising pedagogical experience on the project activity of the methodologist on the basis of the use of contemporary samples their pedagogical practices are highlighted in the Article.

– experience of educational institutions regarding the use of information and communication technologies and tools during methodological work with pedagogical staff, management activities, teaching of basic disciplines; use of mixed and inverted learning technologies, STEAM education, competency and adaptive learning, etc.;

– the activities of distant establishments, providing Ukrainian education for children from temporarily uncontrolled territories of Donetsk region. They are Kramatorsk secondary school № III degrees №8 of Kramatorsk city council, Bakhmut school № III degrees №18 of the Bakhmut city council, secondary school I-III degrees № 9 m. Pokrovska, Slavic secondary school № 13 of the Slavic city council, KP "Mariupol secondary school of I-III degrees №29 of Mariupol city council of Donetsk region".

4. Readiness to overcome the difficulties associated with the content and organization of innovation activities. The Department of External Independent Evaluation and Monitoring of Quality of Education and the Department of Coordination of Methodological Services conducts system monitoring of the innovation activity results, overcoming the difficulties in organizing innovative activities through the introduction of models of professional development of teachers.

The MC has developed a rating of the regional effectiveness of the methodical services, based on the monitoring of the effective training of methodical services for teachers participation in professional competitions, personal participation of managers and methodologists of the MC their presentation, publishing, project activities. Taking into account the IVth stage, the results of All-Ukrainian competitions "Teacher of the Year", "School Library", "Innovative lesson of physical culture with elements of football", contest-review of the All-Ukrainian scientific and educational project Philological Olympus "On the Wave of the Present", All- Review "The Panorama of Creative Lessons - 2017" are shown in Fig. 1. XII All-Ukrainian Festival-Contest "Teacher of the Year on Spiritual and Moral Directions-2017", "Sunflower-teacher-2017", Web-show "Near the genius", festival "Search for beauty, kindness look! , the regional competition on the k I will devote to the development of E-content for a distance school are also shown in Fig. 1.

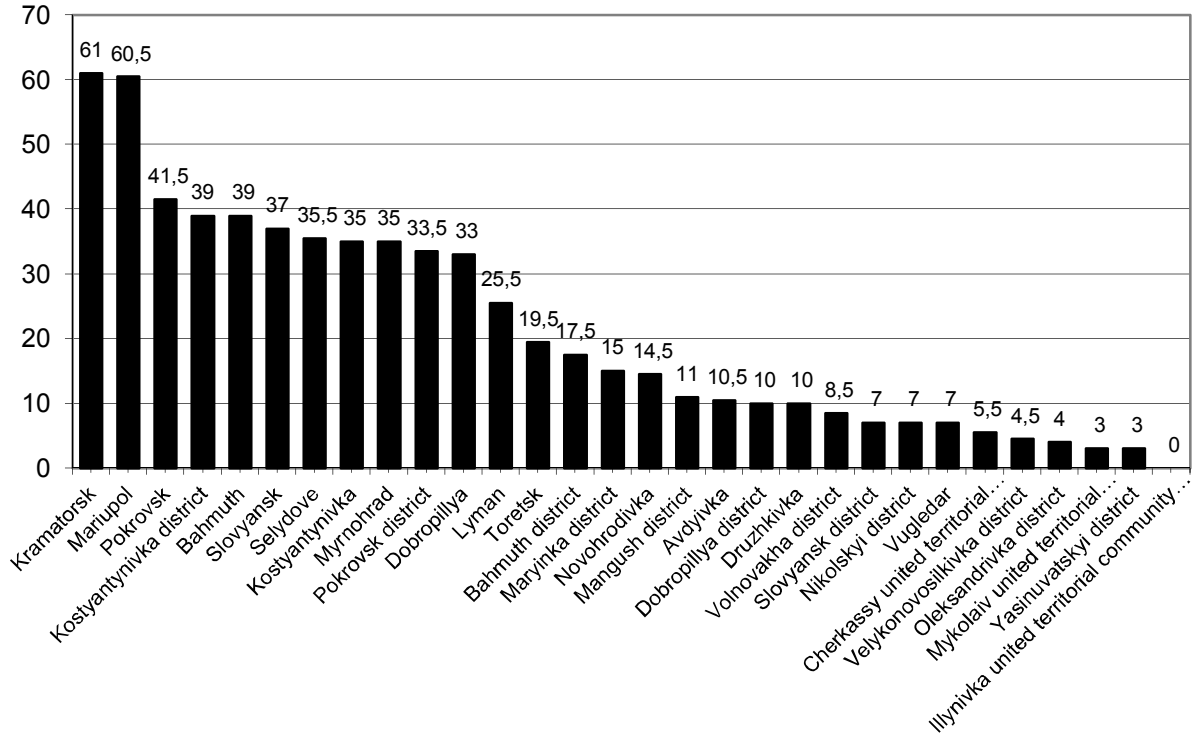


Fig.1 Diagram of results of teacher training for professional competitions.

"Virtual exhibitions, such as extravaganza of finds", an exhibition of methodological materials on the topic" 2017 is the year of integration of the Ukrainian-speaking component into the work of a teacher-philologist". The presentation of P. Glazovyy's creative interactive materials, namely, "Laughter of the human is a wonderful thing!" is shown in Fig. 1.

The 39th intellectual correspondence international competition "50 words", methodical parade "Investigated philologist" are the basis for the rating on the performance of the MC in order to ensure the competitiveness of teachers in the professional competition movement for 2017. They are shown in Fig. 1

The best results in this direction are methodological services of the cities of Bakhmut, Kramatorsk, Mariupol, Pokrovsky and Konstantinovsky districts/regions.

In addition, the monitoring of the creative and professional activity of the managers and methodologists of the MC was analyzed through analysis of their personal participation in all-Ukrainian and regional conferences during the year, international, national and regional projects and the dissemination of methodological experience through publishing is shown in Fig. 2. Participation in exhibitions of various topics, active participation in regional laboratories is shown in Fig. 2.

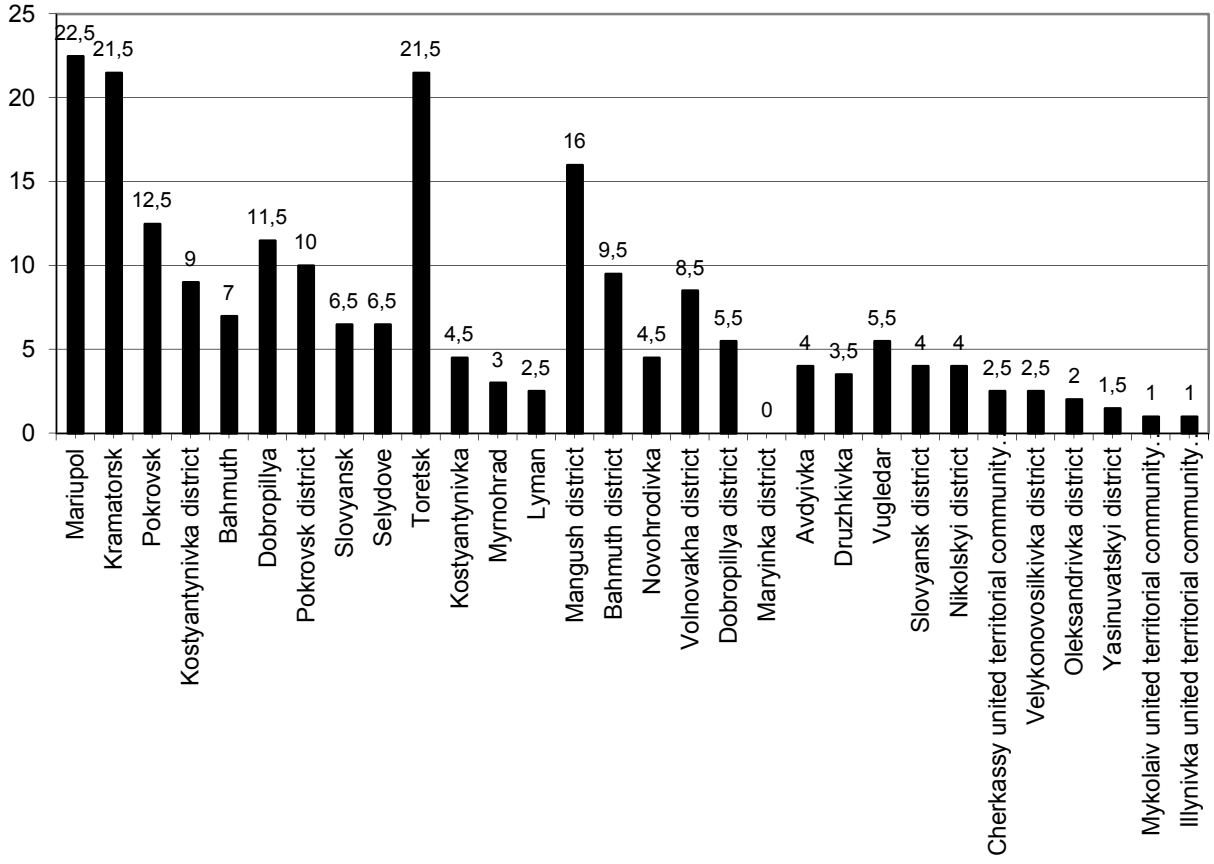


Fig.2 Diagram of participation of employees of MC (MC) in methodical activities, publishing activity.

The best results are the workers of the MC of the cities of Dobropillya, Pokrovskaya, Mariupol, Toretskaya and Mangush regions. According to the total rating of the results of the MC (2017) for 2017, the methodological services of the cities of Bakhmut, Dobropillya, Kramatorsk, Mariupol, Pokrovskaya and Konstantinovsky regions are the best indicators in the determined directions of work, as shown in Fig 3.

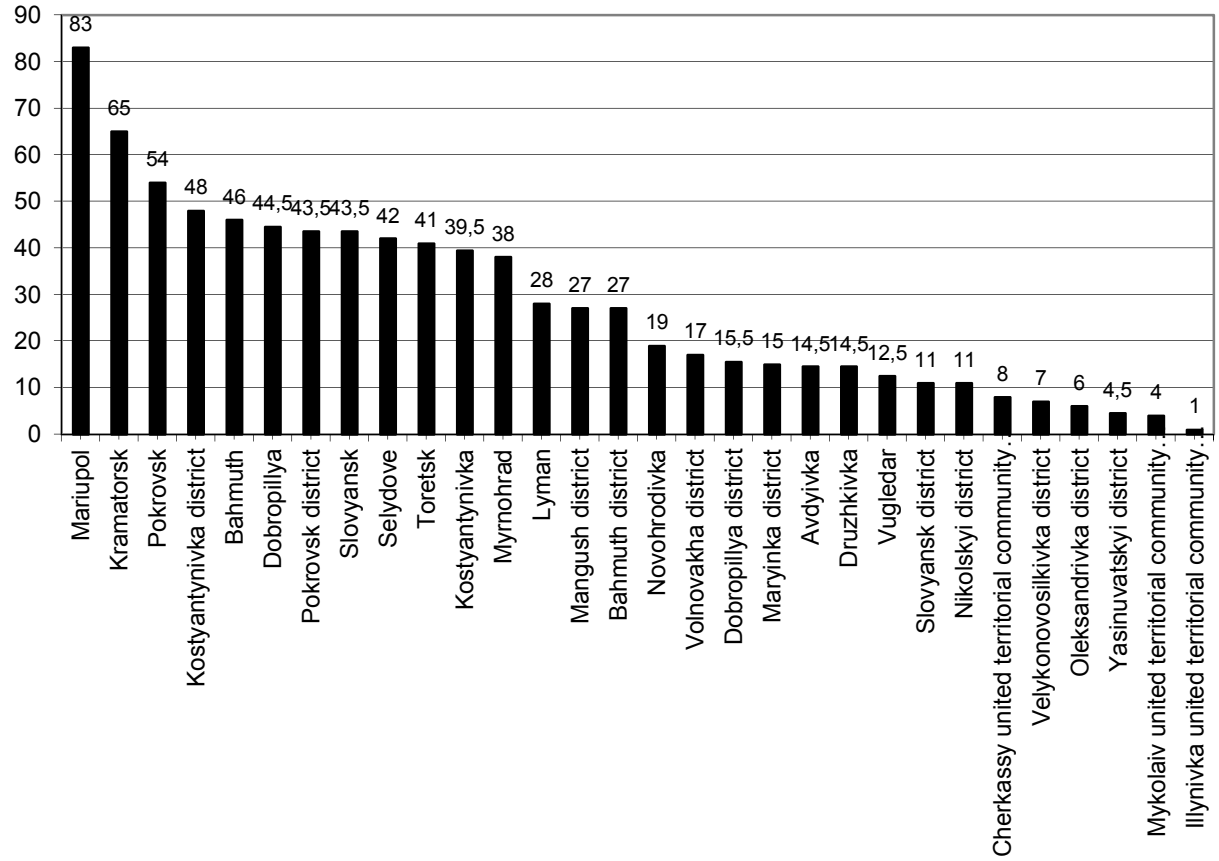


Fig. 3 Diagram of general performance of employees of MC.

The Department of External Independent Evaluation and Monitoring of Quality of Education develops a toolkit for studying the state readiness for teachers of secondary education institutions in order to introduce innovations. The impact of experience in the regional creative laboratory "Modern Trends in Education" on the readiness of the teacher to innovate in New Ukrainian school will be studied among other things.

5. Creation of information resources. The creation of a regional educational portal of Donetsk region with methodological and teaching materials, Ukrainian encyclopaedias, multimedia textbooks, interactive on-line resources and disclosure of analytical materials on the blog of the Department of Management and Administration and the main site of the Donetsk make the work for the development of professional competence much more easer. The generalized experience and experience during the experimental and experimental activities of educational institutions were presented during the annual international exhibitions "Modern educational institutions", "Innovation in modern education" and international exhibitions of education abroad "World Edu". Donetsk oblIPPO takes an active part in the exhibition exposition, presenting results of the regional innovation activity to the visitors of the exhibition, organizing round tables, panel discussions for visitors from all regions of Ukraine.

Such systematic work of the Department of Management and Administration in relation to the development of professional competence of methodical, managerial and pedagogical personnel through the innovative educational environment helps educational institutions to design and implement in practice effective models for increasing the professional level of educational institutions, tested modern scientific ideas, original findings, innovative techniques to provide the necessary methodological support for general secondary and pre-school education in the context of educational reform, orientation to European standards in education, decentralization of education.

Conclusions.

The ability to implement effective means of developing the professional competence of pedagogical workers and the development of the innovative resource of the individual are the main characteristics of the innovative educational environment. The inclusion of the teaching staff in innovation activities and the opportunity to accumulate and realize the innovative potential of an educational institution, etc. are among of them.

The multi-vector problem of the development of the innovative educational environment is not limited only to the proposed analysis. Further, our studies will be addressed to the effectiveness of the functioning of the innovative educational environment of the Department of Management and Administration of the Donetsk Regional Institute of Postgraduate Pedagogical Education. The influence of external and internal factors of its formation, as well as the impact of different types of innovative educational environment on the development of professional competencies of teachers will be our number one priorities.

References.

Karleszko, S. (2017). Wybrane problemy innowacji społecznych a współczesne wyzwania *Economy and Education: Modern Tendencies*: *volume of Scientific Papers. International Scientific Conference* (pp. 14-21). Academy of Management and Administration in Opole [in Poland].

Koval V., Polyezhaev Y., Bezkhlibna A. (2018). Communicative competences in enhancing of regional competitiveness in the labour market. Baltic Journal of Economic Studies, Vol. 4, № 5, pp. 105-113.http://dx.doi.org/10.30525/2256-0742/2018-4-5-105-113

Polat, E.S. (2012). Types of media in education. *Post-mathematics*, 4 (107), 59-61 [in Ukrainian].

Shapran, O., Shapran, Yu. (2010). Creating an innovative educational environment in the process of preparing a future teacher. *Pedagogy, psychology and methodical-biological problems of physical education and sports*, 9, 108-110 [in Ukrainian].

Tkachuk, N. (2015) Innovative educational environment as a condition for the development of professional competence of teachers. *Pedagogical sciences*, Retrieved from: http://nbuv.gov.ua/UJRIV/Nvvnup_2015_28_1 [in Ukrainian].

Vashhenko L. (2008). Levels of innovation environment development. Retrived from http://osvita.ua/school/method/1934/ [in Ukrainian].

Oleksandra Borzenko
PhD in Pedagogical Sciences, Associate Professor,
Kharkiv National Automobile and Highway University,
Kharkiv, Ukraine

INCREASING THE LEVEL OF SPEECH CULTURE OF THE FOREIGN LANGUAGE TEACHER

Abstract. *Recently, the issue of increasing the level of speech culture of the foreign language teacher is relevant and holds a special place in the field of education as the central condition for professional growth and the effectiveness of his/her pedagogical activity. The concept of speech culture is explored. It is proved that speech culture depends on the content and consistency, the accuracy and relevance of the utterance, the richness of the dictionary, the perfect possession of the ability to combine words in the sentence, to build various structures, to actively apply the norms of the literary language. The main signs of speech culture (communicative qualities of speech), such as meaningfulness, consistency, rightness, accuracy, richness, relevance, expressiveness are determined.*

JEL Classifacation: I20

Introduction.

The question of speech is relevant in any society. Scientists emphasize that the role of speech is in the expression of the inner world of personality. A person who increases the level of speech culture reveals own knowledge and skills, own professional abilities. Increasing the level of speech culture is not possible without extending the expressions, words to mean objects, ideas, new concepts, that is, without the need to constantly enrich own vocabulary of the person. Extension of the dictionary depends on the development of thinking. Thinking is impossible without language, thinking is a speaking in own mind. The more a person acquires knowledge, the richer his/her spiritual life and the level of speech culture.

In today's conditions, with the expansion of international relations, the foreign language teacher faces the responsible tasks of increasing the level of knowledge of the foreign language of students and their ability to express their thoughts correctly and consistently. From the level of speech culture of the teacher, the possession of a significant amount of information, that is, a substantial increase in the requirements for the quality of the foreign language teaching, depends the level of knowledge of the foreign language, which students receive. Indeed, each teacher himself/herself develops his/her own system of development and improvement the professional competence in his/her pedagogical activity. Increasing the level of speech culture of the foreign language teacher takes place in the process of constant reflection, analysis of own activities and determining the ways to improve own skills.

The professionalism of the foreign language teacher requires the qualities that ensure his/her mobility, personal responsibility for own continuous professional development, the creative nature of practical activity, which contributes to raising own level of culture of foreign language communication and needs taking into account ethnocultural experience as well as knowledge and understanding of the processes of interaction between cultures and peoples (Borzenko, 2018, p. 24).

The main responsibility of the teacher is not only to be acquainted with the general principles of influence on the actual experience, but also to determine the specific factors that contribute to the acquisition of such knowledge that leads to development. Above all, the teacher must know how to use the existing physical and social environment to take from it all that can be used to create useful knowledge. An active combination of integrity and interaction forms a measure of educational content and value of experience. Under such conditions, the object of immediate and direct interest of the teacher is the environment in which the interaction takes place, which to a certain extent depends on his/her ability to regulate it (Dewey, 2003, p. 38, 42).

The teacher should be a role model for students, therefore his/her ability to influence the motivation of students to learn the foreign language requires him/her to determine the interaction with the existing abilities and needs of students in order to form a useful experience that is an important indicator of his/her pedagogical excellence. The teacher is required to continually improve own professional competence, which includes a combination of knowledge in pedagogy, psychology, didactics, linguistics, teaching methods of the foreign language, as well as to use the new pedagogical technologies and their technical means, which ensure the improvement of speech culture.

An inalienable feature of the educated, fully developed person is a high speech culture, that is, the ability to use actively the modern literary language with all the riches of expressive means and the norms inherent in the literary language as a means of communication. Science that studies the normativity of language, its compliance with the requirements that apply to the language in society is called the culture of language. It develops rules of pronunciation, stress, word usage, creation of forms of words, phrases and sentences, and requires speakers to comply with them. The culture of speech is the rules of literary speech and the ability to use them. Every educated person should strive to master the culture of speech and to demonstrate the ability to use language in communicating with others (Pentyliuk, Marunych, Haidaienko, 2017, p. 12).

Language regulates the relationship between people, affects them. This is manifested in the speech when there are certain circumstances of communication. To understand one another, the speech of the speakers must be qualitative. Speech culture depends on the content and consistency, accuracy and relevance of the utterance, the richness of the vocabulary, the perfect possession of the ability to combine words in the sentence, to build diverse structures, to apply actively the norms of the literary language. Therefore, the main features of speech culture are meaningfulnes, consistency, rightness, accuracy, richness, relevance, and expressiveness. They are called the communicative qualities of speech, because they are manifested when constructing an utterance in order to communicate. Creating an utterance takes into account logic, clarity, emotionality, speech. All these signs are subject to the most important one – correctness. (Pentyliuk, Marunych, Haidaienko, 2017, p. 37).

Teaching the foreign language requires a certain level, which has to be achieved – it is the fluency of the language at the level of the native speaker, that is, the language is the subject of study. It should be noted that it is the higher educational institutions that play an important role in the development of foreign competence both of the particular person and in society in general, which is influenced by such components as studying the culture of other peoples (traditions, customs, etc.); inclusion to the values of world culture; the desire of the person to achieve a high level of foreign language skills and a culture of speech that gives the opportunity to realize own potential for the opportunity to actively work in the world market.

1. Presentation of the main material.

Everyone is born in the language or languages spoken around him/her. Each language describes the world in its own way. Ancient Greeks called the language "logos". At the same time, "logos" means "reason". Aristotle, one of the first Greek philosophers, defines a person capable for logos as talking and thinking animal. The Greeks spoke logos, that is, the language that makes a person who creates a culture. The philosopher Jacques Derrida said "The language is not owned by anyone." This means that when you speak a language, you belongs to it as much as it belongs to you. Inside it, new formations are possible, but in fact it is it, the language, that through you, thanks to you, continuously creates itself. You do not own it, it obliges you and creates you. It does not belong to you – you belong to it and it belongs to other people besides you. Moreover, the language does not belong to anyone because it can be studied (Cassin, 2016, p. 10, 12, 13, 16).

The word "language" in the speech (oral, written, printed) of modern people has a wide range of meanings. It covers the human language, the language of the Creator, the angelic language, the natural language, the artificial language, the language of the animals, the language of plants, the language of nature, the language of art (for example, dance, painting, sculpture, etc.), sign language, the language of science, or metalanguage (for example, philosophy, physics, chemistry, linguistics, etc.). Often one can hear about the language of the eyes, the language of the hands, the language of the perfumes, the language of the lovers, the language of the flowers, the language of images, the language of symbols, etc. In these cases, the word "language" is used in the figurative (metaphorical) meaning. The original and main content of it is the natural human language – a means of daily communication of people (Batsevych, 2011), "the frozen expression of a certain way of experiencing life" (Fromm, 1994) and is considered as a system of socially produced communication tools.

Each people have own cultural traditions, customs and their own national character. Even peoples-neighbors have significant differences both in language and in customs, and even in religion. National features are very important, since the values, customs, traditions that have been learned in childhood and in youth create many difficulties in communication between the carriers of different cultures. The concept of intercultural communication includes, first of all, the language. Communication always takes place within a certain culture using a specific language and communication laws.

The language is inextricably linked to spirituality that is why a unique worldview is introduced in every language. The peculiarity of the internal form of each language is manifested in the division of the world by the words, in the system of grammatical categories and in the unique structures of all language levels. This is the set of all that has been created and worked out by speech (Batsevych, 2011, p. 43). Evidence of the existence and viability of language is speech.

The masterfulness of speech, the spontaneity of verbal action require from the speaker a well-developed technique of speech – a complex of theoretical and practical basis of pronunciation (the perfect command of the speech apparatus, the ability to use language and speech correctly for pedagogical, teaching and educational purposes) (Klymova, 2014).

In the process of speech, the person communicate with the help of language. There is nothing that can not be told. Therefore, language is the most perfect means of people's communication. Everyone learns the language from those around him/her. Society (family, friends, kindergarten, school) teaches people the language. Through the language we perceive the world. The perception of the world takes place through the prism of our language, which is the most important means of people's communication, that is, means of expressing and conveying the thoughts and feelings; means of creation, formulating and existence of thought: without naming, there is no thinking, comprehension of reality; the social phenomenon, as it arises, develops, lives and functions in society; means of communication not only between people living in the same time, but also between generations; a huge asset of human society; not only the product of the history of society, but also an active factor in this history (Pentyliuk, Marunych, Haidaienko, 2017, p. 13).

The problem of speech activity of the person has been actively investigated by the scientists from many countries of the world (V. Admoni, F. Batsewych, L. Bloomfield, I. Baudouin de Courtenay, I. Holubovska, W. von Humboldt, H. Clark, E. Coseriu, J. Austin, O. Pocheptsov, F. de Saussure, M. Stubbs, D. Hymes, M. Halliday, Z. Harris, O. Yashenkova, and others). Scientists emphasize that a successful communicative function of the person, his/her linguistic activity is a form of human activity, reflecting the interaction of social, intellectual in his/her behavior, as well as the ability to implement complex, multicomponent, dynamic, holistic communication. The analysis of a considerable amount of scientific material shows that in their papers, scientists are trying to find out in what relations are the language categories, the language elements of communication, and which of them most fully reflect the essence of the communicative function in real communication (Borzenko, 2019). One and the same concept, one and the same piece of reality have different forms of expression in different languages. The words of different languages, which denote one concept, may differ in semantic capacity, they may cover different parts of reality. The ways and forms of reflection, as well as the formation of concepts, are, in turn, due to the specifics of socio-cultural and natural features of the life of the particular language group (Vorobiova, 2014).

Language is not only a means of human communication, but also acts as a mirror of national culture. Therefore, so important is its national and cultural semantics, which reflects the characteristic features of the nation, its folklore, peculiarities of everyday life, customs and history. It is known that the idiomatic property of the language, which fills the language with expressive means, is phraseologisms. With the lexical properties of words, phraseologisms give the speakers great opportunities for parallel, synonymous ways of expressing thoughts in oral and written speech. The use of phraseological units, firstly, colors the language with vivid features of the national character, and secondly is itself a unique spirit, which distinguishes one language from another. Thus, the enrichment of the language takes place not only and not so much quantitatively as it is qualitatively due to its capability to accurately and figuratively express the essence of both rather complicated and rather simple phenomena (Bidnova, 2014, p. 59).

In the interaction of language and culture, a continuous process of the appearance and creation of phraseological units is developed. Despite the diversity of sources of creation, phraseological units are combined with a common feature – they are oriented towards a person, towards various areas of human activity, towards the linguistic system of customs, rituals, beliefs, everyday life, mentality, and ethnicity. Similar to words, phraseologisms denote objects, signs, actions of the surrounding reality. The phraseological units also include communicative phraseologisms, paroemias, with the reproduction in the language in the finished form and figurality that are the characteristic of the phraseologisms. Proverbs and sayings occupy a special place in the language system, have their own national specifics and reflect the world view of one or another people (Borzenko, 2016, p. 50).

Paroemias (proverbs and sayings) are part of those national phraseologies that most clearly reflect the ethnically conditioned value-based views of the people about the world around and their existence in it. The axiological significance of the paroemiological units allows to consider them as a product of the moral-value conceptualization of reality by the languages. The paroemiological framework of any language reflects not only the universals of the experience common to humanity, but also presents unique patterns of national logic and world outlook that promotes the identification of the mental characteristics of ethnic groups (Holubovska, 2010, p. 18).

The analysis of a significant amount of phraseological material (I. Holubovska, O. Potebnia, E. Sepir, Yu. Stepanov, V. Teliia, B. Whorf, O. Uryson, O. Yakovlieva, and others) shows that the change of world view is caused by the transition to another language. Representatives of different ethnic groups have a different view of the world. Each language creates the culture and history of its ethnic group. Scientists are trying to discover the connection of human consciousness with language forms, to trace the reflection of the nature of knowledge and perception of the world in the deep language categories, to explore the “language of culture”, to identify cultural and linguistic stereotypes, to determine the mutual influence of language and spiritual culture (Borzenko, 2017, p. 412, 414).

Thus, the use of phraseological units, which not only diversify, enrich, color the speech, accurately reproduce the reflection of objects, concepts, phenomena, culture, social and historical peculiarities of the people, the country, but also are the key means of further learning the language and increasing the level of speech culture, by the foreign language teacher in his/her speech activity is extremely important.

The relationship between language and culture is very complex and multifeatured. Language is both a product of culture and its important component and condition of existence. Moreover, the language is a specific way of cultural existence. Each language speaker is at the same time the bearer of the culture, which is served by this language. Culture is given to the person through language and in language. One can say even more: only because of the language a person does become the person. Anciently Socrates addressed the person with the following words: “Speak, that I may see you”. The essence of the person is preserved and manifested itself in the language. In the process of mastering language and communication, the person opens for himself/herself the world of own human being. As semiotic (sign) systems, language and culture have much in common, in particular: the subject of culture and language is always the individual or the social medium, the person or the society; both culture and language reflect the human worldview; they have individual and social forms of existence; they have normativity and historicism; culture and language exist in dialogue with each other. At the same time, language and culture are different semiotic systems. Language is autonomous with respect to culture as a whole and is considered as an independent semiotic system. Significant differences of language from culture researchers see in that the culture is a product of social, not biological activity of people, and language is a phenomenon both of culture and of nature. Each language produces a certain picture of the world, and the linguistic personality must form an utterance in accordance with this picture. And this manifests itself specifically in the human perception of the world, which is fixed in the language. Language is the most important way of developing and maintaining the knowledge of the person about the world around. Reflecting the objective world in the process of activity, the person captures the results of cognition in the word and speech (Vorobiova, 2014, p. 81, 82).

It should be noted that at the present stage of the foreign language teaching in conditions of globalization and informatization, the foreign language teachers face the certain tasks of increasing the requirements of communicative features (consistency, accuracy, relevance, linguistic ethics) of the practical possession of speech, which varies from special abilities, environment, members of the speech, etc.

Consistency of speech characterizes the meaning of utterance and ensures its semantic consequentiality. Speech is called consistent when it provides semantic connections between words and sentences in communication. Verbal expression of thought is carried out according to the laws of logic – the science of thinking. Logic manifests itself precisely in the use of words and phrases, in the correctness of constructing sentences, in the

semantic completeness of utterance. On the basis of consistency, the cogitability, effectuality, relevance of speech are determined. The basis of the consistency of speech is the logical thinking that is formed by the stock of knowledge and the ability to transfer it to the other person. In order for speech to be logical, one must have knowledge of language and use the laws of communicative speech. The logic of utterance the person perfects throughout the whole life. There are different conditions of consistency. First of all, one must master the logic of utterance. A person who wants to learn to speak and write logically must learn to think logically. Therefore, it is necessary to develop in ownself the ability to think clearly and consistently. It is necessary to master the logic of presentation, to take into account the speech situation. Compliance with the logic of presentation positively affects the understanding of the content of utterance by the listener (Klymova, 2014, p. 79).

The foreign language teacher must possess the logic of utterance and presentation taking into account the level of knowledge, life experience, the language situation; to develop the ability to think logically; to correctly use synonyms, prepositions, pronouns, adverbial participial phrases, etc.; to correctly construct both simple and complex sentences. All this makes it possible to more accurately convey thoughts, to more clearly outline the connections of objects and phenomena, as well as to influence the understanding of the content of the utterance, that is, the language acquisition, thereby increasing the level of speech culture.

The consistency of speech has much to do with accuracy. The accurate speech is a speech, in which the words fully correspond to their meaning and the meaning of the expressed thought. The accuracy of speech is one of its most important properties and characterizes above all the meaning of utterance. The accuracy depends on of the speaker's ability to find such words that are fully correlated with the objects, phenomena, actions that name them. The accuracy of speech implies, on the one hand, the knowledge and use of the exact meanings of words, phrases, sentences corresponding to the norms of the literary language, and on the other hand, the ability to express own thoughts in such a way that they are unambiguously perceived by the listener of the speech. The requirement of accuracy affects the selection of linguistic means for constructing oral or written utterance. The accuracy of speech is created under the following conditions: knowledge of the subject of speech; knowledge of language; speaking skills to speak about something using the richness of language. In making speech, a person freely selects words with one or another meaning. But taking into account whether the other person understands him/her. Consequently, the accuracy of speech depends not on the number of words used, but on their cogitability, unambiguousness. Most of the possibilities for expressing the accuracy of speech have polysemantic words, terms, synonyms, homonyms, paronyms. The accuracy of speech requires a complete correlation of words with reality. The accuracy of speech means politeness, courtesy, linguistic ethics in all spheres of communication (Pentyliuk, Marunych, Haidaienko, 2017, p. 57, 58).

To improve the level of speech culture, the foreign language teacher should use the accuracy of the speech that is created by both mastering speech skills, language proficiency and the relevance of speech. The relevance of speech is one of the key qualities of speech.

Relevance is a feature of speech, which organizes its accuracy, consistency, purity, requires such a selection of linguistic means that meet the goals and conditions of communication. The relevant speech corresponds to the theme of utterance, its logical content, emotional coloring. The relevant speech requires consideration of situations, of the composition of speakers, forms of speech. The terms of relevance of speech are the understanding of the necessity of the relevance of speech; possession of the culture of speech and communication through language; good manners of the person, level of his/her culture, moral qualities; perfect knowledge of language, its functions, forms and types. The ability to choose the most appropriate form of communication depends on the relationship and speech practice: each person expresses his/her opinion about the same subject in different way. The relevance of speech depends on the speaker of his/her linguistic behavior, linguistic ethics, and therefore is also predetermined psychologically. The ability to come to the contact with the other person, find the appropriate words, intonation, observe the rules of communication is mandatory for everyone. One must always remember that "the sword hurts the body, and the word hurts the soul." Speech can only be relevant when it is characterized by correctness, consistensy, accuracy, and richness (Pentyliuk, Marunych, Haidaienko, 2017, p. 84, 85, 86).

The richness of speech is provided by the richness of forms. The language contains a large number of variants of words and their forms, the assimilation and use of which make the speech of each person richer, more expressive, more diverse. Phonetic variants of words also diversify the speech. The richness and diversity of utterance are provided by syntactic constructions: participial phrase, adverbial participial phrase and subordinate sentences, direct and indirect speech, variants of grammatical forms. Expressing an opinion, the person can use a variety of means depending on language knowledge, erudition, utterance style. Richness and diversity of speech are manifested on lexical, phraseological, word-formation, grammatical and stylistic levels. The conditions of richness and diversity of speech are the following: the richness of the vocabulary of each person; the ability to use different language tools in own speech; ability to intonate speech; constant improvement and enrichment of own speech. The richness of speech is judged primarily by its lexical composition. Lexical and phraseological richness of speech is developed by dictionaries, works of artistic, scientific, social and political literature, oral folk art. Lexical richness requires not only the assimilation of a large number of words, but also all possible meanings of a multi-valued word. Building the utterance in one or another style, it is necessary to take into account the emotionally-expressive color of words, phrases, sentences and their belonging to a certain style (Pentyliuk, Marunych, Haidaienko, 2017, p. 72, 73).

The concept of speech culture also includes the behavior of the speaker, or linguistic ethics. What is called linguistic ethics is used daily in the broadcast of each person. The most important requirements of language etiquette are politeness, courtesy, attentiveness, self-command, tact. “There is nothing costs less than civility,” – wrote Spanish writer Miguel de Cervantes. Linguistic ethics is the totality of linguistic means that govern the behavior of the person in the process of speech. Linguistic ethics guides to those rules of speech, which allow for meaningful communication. The rules of linguistic ethics depend on linguistic situations, which include acquaintance, greetings, farewells, congratulations, apologies, requests, invitations, suggestions, advice, consent, refusal, compassion, compliment, approval, etc. Each situation requires the use of language means specific for it (Pentyliuk, Marunych, Haidaienko, 2017, p. 108, 109).

The ethics of speech the foreign language teacher is important for the developing a high level of communication, and is a system-forming component of the teacher's professional competence. The teacher carries out not only educational, informational, but also cultural functions, as well as creates conditions for the moral and spiritual development of students. Speech ethics is a continuous process of increasing the level of speech culture.

Language acquisition without knowledge of culture is not enough for effective contact between representatives of different nationalities and languages. One of the main obstacles to full understanding is the discrepancy in linguistic thinking. The peoples have different mentality. A striking example is the intonational organization of speech (Zakharova, 2015, p. 123).

An important role is played by the intonation of speech, which is marked by a variety of means. Different components of intonation – the emphasis of the pause, division into syntagms – reflect the features of the syntax of speech constructs. In speech, the role of intonation grows due to the fact that it often has to fill in the missing elements of the sentence with own means. Intonation is the only feature of expression of communicative sentence. Intonation greatly facilitates understanding of spoken language by ear. The spoken language is always emotional and combines all components of intonation: melodiousness, longitude intensity, clarity of pronunciation, change of tone (Pidruchna, 2011, p. 23).

Every comprehension of the thought can be properly expressed and perceived by hearers only if the speaker uses properly all the components of language (system of its sounds, composition, verbal emphasis) and intonation (natural unity of breaks, logical and emotional function of stresses, speech melody, tempo, rhythm and voice timbre). Intonation is a common means of speech actualizing, a means of connection with the situation of communication and the context of utterance. It is the heart and mind of vivid speech. There is no vivid speech without intonation (Klymova, 2014, p. 105).

Today, the concept of “intonation” has many different interpretations. Linguists interpret the intonation as a complex whole, which includes a certain number of components. Modern Ukrainian linguists (E. Andriievska, Ye. Horot, S. Ivanova, A. Kalyta,

Ya. Fedoriv, T. Yancheva, and others) consider intonation as a complex set of elements, including melody, rhythm, volume, tempo, emphasis, timbre. For representatives of English and American linguistic schools (L. Armstrong, D. Bollinger, D. Brown, A. Gimson, H. Palmer, K. Pike, H. Smith, I. Ward, M. Halliday, and others), the identification of intonation with speech melody is typical (Zakharova, 2015, p. 25, 19).

In speech, melody performs a number of important functions. For example, it serves as a means of dividing the speech stream and connecting certain parts of it. The boundaries between the two segments of speech are marked by a breaking of a melodic figure: the transition from rising the tone to its lowing, from lowing to rising, from high end to low start, etc. Melody is a means of expressing communicative type of sentence (declarative, interrogative, imperative). The melody is used for verbal stress and highlighting the main words in the sentence or phrase. Modifications of the melody due to the variability of the work of the larynx can affect the meaning of the sentence-utterance in general or change its meaning. In addition, variations of melodies are associated with the tranfer of various information about such individual characteristics of the speaker as gender and, to some extent, age, as well as extra-lingual information about the emotional state of the speaker (Zakharova, 2015, p. 51).

Intonation, as shown by the works of domestic and foreign phonetics and psychologists, plays an important role in the process of speech communication, which is one of the forms of social interaction of people. Intonation is polyinformatic. This means that it includes information not only about the speech act, but also about the intonational structure of the given language, about the speech intonation, the author (age, gender, body structure, etc.), social relations and personal relationships of the members of communication (Zakharova, 2015, p. 120).

Proper stress is very important. Incorrect statement of verbal stress can lead to misunderstanding between communication participants. British linguist R. Bansal notes that the wrong stress of the word can affect the meaning of the word, and hence the meaning of the message. There are cases where, due to a false stress made by the speaker, the listener does not hear the word that the speaker wanted to convey to him/her (Bansal, 1990, p. 227).

Misunderstandings that arise due to the ignorance of the cultural specificity of intonation can lead to cultural shock. Cultural shock is a common occurrence for a person studying a foreign language in a foreign cultural environment. It is associated with a sense of alienation, irritation, hostility, sadness, loneliness, nostalgia, and even with mental disorders (Brown, 1998, p. 35).

The issue of the features of speech has been studied by domestic and foreign linguists (A. Bahmut, L. Bowen, M. Dvorzhetska, P. Delatr, Yu. Zakharova, A. Kalyta, S. Nikolaieva, C. Pallier, O. Petrenko, V. Rivers, E. Sirdal, P. Taylor, J. Wells, G. Hattab, and others).

Most of the foreign experimental phonetic research is devoted to the problem of automated recognition and speech synthesis. The purpose of creating such programs is the possibility of a dialogue between a human and a computer, and facilitating the process of cognition. In connection with the emergence and spread of simple in use and affordable technologies of multimedia, hypertext internation technologies, it became a reality of creating electronic phonetic courses, through which it is possible to solve a great deal of didactic tasks. Newer computer programs provide high-quality speech analysis, as they process audio material that has passed analog-to-digital conversion or digitization. With such programs, one can receive instantaneous values of the spectrum, tones, dynamic spectrographs and oscillograms, separate sound sequences from certain sounds, modify their volume, determine and change the tonal characteristics of speech (Zakharova, 2015, p. 8).

In the process of increasing the level of speech culture, it is important for the teacher to use authentic sources of popular science literature of periodicals of the last years, of the Internet, as well as to apply the latest methods and means of foreign language teaching such as computer and Internet technologies, blogs, web resources, project method, etc. Mastering communicative and intercultural communication is not possible without the practice of communicating and using Internet content. The virtual environment allows to reach the time and space limits, provides an opportunity for authentic communication with real interlocutors. Textbooks, various visual materials (photographs, pictures, slides), audio and video materials, computer and technical means allow to simulate the foreign environment and stimulate not only the development of the main types of speech activity, but also the process of increasing the level of speech culture (Hnatenko, 2016, p. 51). The rapid development of new pedagogical technologies and the wide availability of information resources require an appropriate review of the activity approach to the analysis of the issues of speech culture of the foreign language teacher.

Consequently, through communication, the level of speech culture is formed. By the language, facial expression, gestures, intonation, the teacher transmits the attitude to the subject of discussion, thereby revealing the own level of cultural self-determination.

Conclusions.

One of the important indicators of the professional excellence of the foreign language teacher is speech culture. It is it that provides educational impact on students. The teacher needs to perform research, to have certain practical experience. Speech culture includes the appropriate level of acquisition of the language being taught, contributes to the achievement of goals and objectives, uses principles, methods, techniques, ways, aids. Therefore, it is necessary to consider the essence of increasing the level of speech culture of the foreign language teacher as a special form of development of professional activity, professional self-development, self-realization.

Thus, in order to increase the level of speech culture, the foreign language teacher should:

1. respect the language he/she is teaching and the students studying this language;

2. monitor the new semantic changes of concepts indicated in new editions of dictionaries, reference books, scientific researches in foreign language he/she is teaching;

3. develop a conscious attitude to own skills in foreign language and constantly improve them;

4. be able to build utterance (use phraseological units to enrich own speech);

5. use rules of the language;

6. meet the requirements set to the teacher by modern communication;

7. to produce verbal or written utterance of thought according to the laws of logic and accurate speech;

8. speak correctly, posess intonational organization of speech;

9. listen to and read texts, poetry, that is extremely important because each language has its own outstanding works, which make language and which are created by the language;

10. ensure good foreign language communication, which provides for the ability to carry out a speech act, in which communicative and speech behavior is realized on the basis of phonological, lexico-grammatical, sociolinguistic knowledge and skills;

11. constantly improve own personal qualities as a professional.

Thus, the basis of language culture of the foreign language teacher is a good knowledge of the language being taught, its expressive means, speech practice and "moral consciousness" because the teacher solves ethical problems every day and addresses the challenges of the present.

Further development of increasing the level of speech culture of the foreign language teacher should include a more in-depth linguistic and philosophic analysis in the general context of modern education, as well as a constant systematization of the views of scientists.

References.

Bansal, R.K. (1990). The Intelligibility of Indian English. *PhD thesis*. London [in English].

Batsevych, F.S. (2011). *Philosophy of language: History of lingvo-philosophic doctrines.* Kyiv: VTs «Akademiia» [in Ukrainian].

Bidnova, Yu.I. (2014). Phraseologisms as a means of developing the linguocultural competence of students. *Anhlistyka ta Amerykanistyka – English Studies and American Studies, 11,* 58-62 [in Ukrainian].

Borzenko, O.P. (2017). Language as the most important way and the basis of developing the knowledge and ideas of the person about the surrounding reality, which is objectified in the form world views. *Naukovi zapysky. Seriia: Filolohichni nauky – Scientific notes. Series: Philological Sciences,* (Issue 153), (pp. 411-415). Kropyvnytskyi: Vydavets Lysenko V.F. [in Ukrainian].

Borzenko, O.P. (2019). Linguistic elements of communication as factors of a successful communicative function of the person in the study of the foreign language. *Scientific notes. Series: Philological Sciences,* 175, (pp. 312-316). Kropyvnytskyi: [in Ukrainian].

Borzenko, O.P. (2016). Identity of associative meaning, similarity, nature of the situation of use in comparing some Ukrainian and English proverbs and sayings. *Naukovi zapysky Natsionalnoho universytetu «Ostrozka akademiia». Seriia «Filolohichna» – Scientific notes of The National University of Ostroh Academy. Series «Philology»*, (Issue 62), (pp. 49-52). Ostroh: Vydavnytstvo Natsionalnoho universytetu «Ostrozka akademiia» [in Ukrainian].

Borzenko, O.P. (2018). Features of professional development of foreign language teacher in the system of higher pedagogical education. *Modern Tendencies in the Pedagogical Science of Ukraine and Israel: the way to integration,* (Issue 9), (pp. 23-29). Israel: Ariel University [in English].

Brown, H.D. (1998). Learning a Second Culture. In: Culture Bound. (pp. 33-49). Cambridge University Press [in English].

Cassin, B. (2016). *More Than One Language.* (S. Zheldak, Trans). Kyiv: DUKH I LITERA [in Ukrainian].

Dewey, J. (2003). *Dosvid i osvita [Experience and Education]*. (M. Vasylechko, Trans). Lviv: Kalvariia [in Ukrainian].

Fromm, E. (1994). *Psikhoanaliz i dzen-buddizm. Chto takoye dzen?* [*Psychoanalysis and Zen Buddhism. What is Zen?].* Kyiv [in Russian].

Hnatenko, Ya.V. (2016). Study of the foreign language by professional orientation: goals and objectives of the discipline. *Imidzh suchasnoho pedahoha – Image of the Modern Pedagogue, 1 (160),* 49-52 [in Ukrainian].

Holubovska, I. (2010). Antropolohichna linhvistyka i klasychni movy: mozhlyvosti doslidzhennia [Anthropological linguistics and classical languages: research opportunities]. *Ukr. nauk. zb. Inozemna Filolohiia – Ukrainian scientific collection. Foreign Philology*, (Issue 122), (pp.14-20). Lviv: LNU [in Ukrainian].

Klymova, K.Ya. (2014). *Osnovy kultury i tekhniky movlennia [Fundamentals of Culture and Technique of Speech]*. Kyiv: Lira-K [in Ukrainian].

Pentyliuk, M.I., Marunych, I.I. & Haidaienko, I.V. (2017). *Business communication and culture of speech.* Kyiv: Tsentr Uchbovoi Literatury [in Ukrainian].

Pidruchna, Z.F. (2011). The phonetic features of the English common language. *Linhvistyka – Linguistics, 2 (23)*, 21-26 [in Ukrainian].

Vorobiova, I.A. (2014). *Fundamentals of Linguistic and Cultural Studies*. Kyiv: Vydavnychyi Dim «Slovo» [in Ukrainian].

Zakharova, Yu.M. (2015). *Intonatsiina orhanizatsiia suchasnoho anhliiskoho movlennia [Intonational organization of modern English speech]*. Kyiv [in Ukrainian].

Tamara Komarnytska
PhD in Philology, Associate Professor,
Taras Shevchenko National University of Kyiv,
Kyiv, Ukraine

WHAT LANGUAGE DO RUSSIAN-SPEAKING ISRAELIS REALLY SPEAK?

Abstract. *The article is devoted to the study of the interfered (transferred) Russian-Hebrew speech of the Russian-speaking Israelis. Having observed the speech of the former immigrants, we have noticed that all of them inherited a transferred Hebrew-Russian form of speech, manifested mostly at the lexical and morphological levels, and sometimes also at phonetic and syntactic language levels. Our attention was drawn to the fact that the phenomenon of mixing Hebrew and Russian has already gone beyond the spoken spontaneous speech penetrating to the language of mass-media and literature. This extends the functional basis of non-normative interfered speech. Trying to interpret the transferred Hebrew-Russian speech as a kind of pidgin, vernacular, or surzhyk, we have come to the conclusion that the analyzed phenomenon has the features of all three of these varieties of language existence, but at the same time possesses a number of characteristics that are not inherent to them. One more issue which we still are not able to solve, lies in whether the analyzed phenomenon is an example of the language transfer, or whether it belongs to the mixed languages. The latter problem depends directly on determining the degree of transfer, which still has to be found out.*

JEL Classification: Z13

Introduction

In today's globalized world, non-contact cultures and languages have become virtually non-existent. Different forms of linguistic interaction are becoming more and more typical phenomenon due to the migration processes of various types. A separate, special type of migration is the Aliyah, the immigration of the Jewish people to the State of Israel. After the collapse of the USSR, hundreds of thousands of Russian-speaking Jews of the former Soviet Union gained and used the possibility to immigrate to Israel. Their mass immigration ("The Great Aliyah") led to the fact that almost every fifth citizen of the State of Israel has become Russian-speaking. However, despite such a significant increase in the Russian-speaking population, the tough language policy of the country has not softened. The study of Hebrew is a prerequisite for the social adaptation of new immigrants in Israel; one needs to use it when applying to all official institutions (including banks, hospitals, post offices), in documentation of any kind etc. The functioning of the native language is limited only to personal household contacts (family, communication with friends). Such a clear distinction between the spheres of the usage of the Hebrew and the Russian languages makes it possible to determine this language situation (according to the classification of Leonid Nikolsky (1976)) as exoglossic and heterogeneous (the coexistence of unrelated languages – Hebrew and Russian), inequitable and unbalanced (the domination of Hebrew in all official spheres with significant restrictions of the sphere of the usage of the Russian language).

In sociolinguistic terms, we can state that knowing both Hebrew and Russian is a kind of bilingualism, and the different social status of Hebrew and Russian forms diglossia; at the same time the oral speech of the immigrants has the characteristics of language transfer. Thus, the typical linguistic situation for the immigrants from the former USSR is Hebrew-Russian bilingualism with diglossia (a digloss bilingualism) with an interfered (transferred) form of speech. And the latter, according to our observations, is the main way of communication among the Israelis coming from the former Soviet Union. We became interested in the nature of this phenomenon which, despite its significance, is described rather fragmentary in the linguistic studies (Morozov, 2015, Skopina-Paradias, 2008). In particular, it is still unclear how to qualify it from the point of view of sociolinguistics. For example, should this speech be nominated as an interfered (transferred) or a mixed one? If it is a mixed one, then what kind of mixed languages does it belong to? We will try to find answers to these questions by examining examples of mixing the Russian and the Hebrew languages in the speech of the Russian-speaking Israelis. The object of our study is the interfered speech of the immigrants from the former USSR, with phonetic, lexical, morphological and syntactic features of speech interference (Hebrew – Russian) as the subject of the study. The purpose of our study is to describe the nature of interfered speech used by the Russian-speaking Israelis. Thus, the tasks are as follows: 1) to consider the interfered speech of the three groups of immigrants (experienced ones; their children; newly arrived immigrants); 2) to describe the cases of morphological interference of Hebrew words when they are included into the speech of the immigrants; 3) to describe the phenomenon of the interfered speech coming out beyond the colloquial style and penetrating into the speech of mass-media and literature; 4) to determine the sociolinguistic nature of the interfered speech of the Russian-speaking Israelis.

Material and Methods. The above mentioned language phenomenon was studied on the base of qualitative approach and the component analysis to present the nuances and details of the phenomenon of the Russian-Hebrew language mixing as well as the nature of hybrid complexes. The main issue we are studying using qualitative methods is to understand the reasons and ways of the language interference in the speech of the Russian-speaking Israelis. Postulating the correlation between language-mixing processes and the shifts in identity leads us to the social semiotic approach and multimodality giving an opportunity to interpret language-mixing processes as connected with the language situation in the country.

During two years we have been monitoring the speech of the 30 Russian-speaking Israelis in the city of Netanya (Central District) between the ages of 21 and 69, nine of which having come to Israel less than two years ago, 17 being the representatives of the "The Great Aliyah" of the 1990's, and four being the children of the immigrants of the 1990's who were born in the USSR, but at the age of 2-3 years came to Israel together with their parents. In addition, as a supporting illustrative material, we have also used some Internet sources (Russian-speaking Israeli forum, comments of Russian-speaking Israeli users of YouTube); some Israeli newspapers published in Russian, as well as essays by the Israeli Russian-speaking writer Dina Rubina.

1. Language Transfer in the Speech of the Russian-Speaking Israelis and Their Children

Our monitoring has shown that the interfered Russian-Hebrew speech is inherent in all three categories of immigrants, even those who have arrived in the country more recently. We assume that such a rapid linguistic interference in the speech of the newly arrived immigrants is caused by several factors: Firstly, they make every effort to learn Hebrew, without knowing which one cannot feel comfortably in Israel; Secondly, they learn new realities that usually belong to the nonequivalent vocabulary (in fact, it will not be a mistake even to assert that the interfered speech of the immigrants actually turns into an interfered one due to the words-realities used in the speech); Thirdly, they imitate the interfered speech of "*olim vatikim*" (the experienced immigrants), trying to mix with them, to become "one of them", because the attitude towards the newly arrived is usually slightly contemptuous; Fourthly, they try to satisfy the expectation of others, which assume that a person will behave and speak exactly this way, and not otherwise (for example, one of the respondents did not understand our statement "*встретимся на площади*" and replied: "*Где-где? А, на* ***кикаре****!*" (Hebrew כיכר – *square*)). Consequently, a newly arrived immigrant starts using a transferred speech, since the rest of the immigrants use it and expect the same manner of communication from him too. Such idiom includes (naturally) Hebrew words denoting local realities, clichés, as well as quite heterogeneous vocabulary, most of which has translation equivalents in Russian. Here are some examples of interfered speech of newly arrived immigrants:

"Там справа увидишь такой ***биньян*** *с* ***шелетом****"* (woman, 35 years old, 2 years in Israel) (Hebrew בניין *building*, שלט *sign*);

"Пришли ***тоцаот*** *нашего* ***мивхана****"* (woman, 26 years, 5 months in Israel) (Hebrew תוצאה *result*, מבחן *exam*);

"Ну, я и говорю, ***бесэдэр****"* (woman, 30 years old, 6 months in Israel) (Hebrew בסדר *OK*);

"Он мне говорит: разговаривай со мной, как с ***лакоахом****. Так ты веди себя, как* ***лакоах****!"* (woman, 29 years old, 8 months in Israel) (Hebrew לקוח *client*);

"Я люблю чай с ***наной****"* (woman, 30 years old, 1 year in Israel) (Hebrew נענה *mint*).

One could wonder, what is the reason to use Hebrew words instead of identical Russian vocabulary? Probably all these respondents in conversation have unconsciously tried to show themselves as the immigrants with experience, because in Israel, the attitude towards this social group is different from that towards the newcomers. Actually, such imitation of a non-normative speech just because of "*speaking the way the others speak*" leads to an inadequate assessment of own speech and neglecting the native language ("*who cares, nobody needs it in this country anyway*"), which therefore causes the degradation of linguistic consciousness, actually reducing it to nothing (Selihei, 2012).

Somewhat different, in our opinion, are the factors that determine the interfered speech of the representatives of "The Great Aliyah". This group of immigrants uses interfered speech not because of a conscious desire to include foreign words and phrases into their speech, but because of the complexity, and often even the inability of speaking

differently. The law of saving language efforts also plays its role here due to which it is easier for the speakers to use the Hebrew word familiar to both of them rather than to think about how to translate it into Russian. The writer Dina Rubina who immigrated with her family on the dawn of "The Great Aliyah" shares her thoughts about this phenomenon:

Однако живешь-живешь и привыкаешь… Более того – постепенно теряешь чувствительность "русского уха" к звучанию слова, начинаешь прилагать немыслимые усилия, чтобы не засорять речь привычными названиями на иврите. И это, поверьте, действительно требует значительных усилий, потому что иврит – как язык – более "удобен" в употреблении, сжат, краток, ёмок.

Гораздо проще, рассказывая о знакомом, которого на службе перевели в статус постоянного работника со всеми вытекающими из этого статуса льготами, сказать "он получил ***квиют****", чем вот так, как я – двумя строками выше, – объяснять это по-русски* (Rubina, 2017, p. 27).

*Гораздо быстрее сказать "****мисрад-клита****", чем "министерство абсорбции новых репатриантов". Посопротивляешься с полгода, а потом и рукой махнешь. Жизнь плотная, не до разговоров, ну его – так проще. Вот и слышишь то и дело в автобусе разговор двух вполне российского происхождения особ:*

– Я говорю ***менаэлю*** *(начальнику): "Пока я не подпишу* ***хозе*** *(договор) со всеми* ***тнаим*** *(условиями) – я работать не стану. Я без* ***пицуим*** *(денежной компенсации при увольнении), без оплаченных* ***несиёт*** *(поездок на работу), без* ***битуах леуми*** *(национального страхования) и без* ***купот-гимел*** *(пенсионных касс) не буду работать!".*

Trying to classify the Hebrew vocabulary included into the speech of the experienced immigrants, we can distinguish some groups of lexemes. The first group would consist of a large number of interjections, parentheses and clichés, that native Israelis also use. It is this layer of foreign language vocabulary, by the way, that also new immigrants immediately borrow along with the realities. Example:

"***Ма зэ*** *вкусненько*" (woman, 53 years old, living in Israel since 1991) (it is difficult to translate the Hebrew phrase מה זה, which is approximately equivalent to *oh!*);

*"****Ма питом*** *я буду це делать?!"* (woman, 53 years old, living in Israel since 1991) (Hebrew מה פתאום *why on earth?*);

"Это не то, чтоб ***давка****"* (woman, 45 years old, living in Israel since 1994) (Hebrew דווקא *specially, on purpose, exactly*);

"*Ой, было* ***мамаш*** *хорошо*" (woman, 57 years old, living in Israel since 1995) (Hebrew ממש *really*);

"*Ну и шо,* ***ма зэ мэшане***?" (woman, 53 years old, living in Israel since 1991) (Hebrew מה זה משנה *big deal!*);

"*Ой, а я как раз вспоминала о тебе,* ***ма зэ*** *вспоминала о тебе,* ***хаваль аль а зман****!*" (woman, 45 years old, living in Israel since 1990) (Hebrew מה זה *oh!* + חבל על הזמן the expression without a specific meaning which can be translated as *I'm just speechless, it's something incredible*);

"*Вчера такая **мивца** была, **хаваль аль а зман***" (man, 44 years old, living in Israel since 1993) (Hebrew מבצע *store promotion*).

This Hebrew component is sometimes almost impossible to translate accurately, and the speakers are unlikely to ever try to do it. Of course, it is impossible to do without the use of such colloquial clichés in spontaneous speech, but from the point of view of linguistics it would be interesting to analyze what factors encourage speakers to use the colloquial loanwords instead of native, turning their speech into an interfered one. Perhaps here we are again dealing with the efforts of the speakers to fulfil the expectations of others, and, possibly, also with the full integration of these foreign-language elements to the idiolect with the inability to find replacement for them in the system of the native language. At the same time, however, we think that all the speakers are aware of the foreign origin of these colloquial words and expressions, but they cannot and do not seek to avoid them, which again brings us to the thought about degradation of the linguistic consciousness.

However, of course, the speech of the immigrants of "The Great Aliyah" includes not only colloquial clichés of Hebrew origin, but also almost all categories of vocabulary and parts of speech. Here are some examples of including words-realities into the speech:

"*Я в раковину уже всю **экономику** вылила*" (woman, 69 years old, living in Israel since 1990) – a common realia אקונומיקה *detergent*;

"*Будеш **хумус** с **тхиной**?*" (woman, 53 years old, living in Israel since 1991) – common realities חומוס *hummus*, טחינה *tahini* (sesame sauce);

"*И она вышла замуж за **таймани***" (woman, 53 years old, living in Israel since 1991) – an ethnographic realia תימני *Yemeni Jew*;

"*Когда заход **Сукота**?*" (man, 52 years old, living in Israel since 1991) – an ethnographic realia סוכות *holiday Sukkoth*;

"*В **итнахалуйотах** вообще дешево*" (man, 43 years old, living in Israel since 1994) – a realia of the state administration and public life התנחלות *Jewish settlement in the Palestinian territory*;

"*И вот это мы идем по **Бен-Гуриону** с этой **агалой***" (woman, 53 years old, living in Israel since 1991) – an onomastic realia נתב"ג *Ben-Gurion airport*, עגלה – *cart*;

"*Она так гордится, что она **цабарит***" (woman, 43 years, living in Israel since 1993) – an associative realia צבר *sweet fruit of the cactus*, in the metaphorical sense – a native Israeli);

"*Это ж просто **мегилат Эстер**!*" (woman, 43 years old, living in Israel since 1993) – an associative realia מגילת אסתר *the Book of Esther* – large scope of writing);

*"Мне надо еще забежать в **маколет**"* (woman, 53 years old, living in Israel since 1991) – a common realia מכולת *a minimarket*;

*"После **моцаэй шабата** откроется"* (woman, 69 years old, living in Israel since 1990) – an ethnographic realia מוצאי שבת *Saturday evening, when it is allowed to work*;

*"Он в **эзор таасие** работает"* (woman, 53 years old, living in Israel since 1991) – a common realia אזור תעשייה *non-residential industrial area on the outskirts of the city*;

*"Я уже в **монитку** села"* (woman, 46 years old, living in Israel since 1999) – a common realia מונית *(shuttle) taxi*.

The above examples also show that Hebrew nouns as the medium of basic information are most likely to be included into the speech. In this case, the peculiar feature of Hebrew-Russian language interference lies in the fact that these nouns do not necessarily belong to the nonequivalent vocabulary:

"*Будешь салат с **хасой**?*" (woman, 53 years old, living in Israel since 1991) – Hebrew חסה *lettuce*;

"*Сколько стоит этот **ляшон**?*" (woman, 41 years old, living in Israel since 1993) – Hebrew לשון *tongue*;

"*Они платят **машканту***" (man, 43 years old, living in Israel since 1992) – Hebrew משכנתא *mortgage*;

"*Значит, мне **шалиах** приносит этот **зэр***" (woman, 45 years old, living in Israel since 1990) – Hebrew שליח *courier*, זר *bouquet*;

"*Он **бааль а байт**, он решает*" (woman, 43 years old, living in Israel since 1993) – Hebrew בעל הבית *owner*;

"*Вам надо поехать в **бейт-мишпат** там получить эти **мисмахим***" (woman, 53 years old, living in Israel since 1991) – Hebrew בית משפט *court*, מסמך *document*.

As we see, sometimes immigrants adapt foreign-language nouns to morphological peculiarities of their native language, trying to conjugate them according to the rules of Russian grammar. Giving a grammatical gender to Hebrew words according to the Russian model is likely to be spontaneous; perhaps, the speakers base on the grammatical gender of the corresponding Russian word or take up a word's gender from the original language, or intuitively give the gender of the borrowed word basing on its ending. In any case, such derivation is chaotic; the speech of one and the same speaker can include either a word entirely transposed from Hebrew with the corresponding ending and grammatical gender, or, in another communicative situation, a Hebrew word acquiring morphological features of Russian language, with an arbitrary assigning it to any grammatical gender. For instance, one can easily say both "*Где мой махберэт?*" and "*Где моя махберэт?*" (Hebrew word מחברת *notebook* is feminine). Describing chaotic morphological hybridization in the mixed speech (on the material of surzhyk), Larysa Masenko (2011) comes to the conclusion that it is an indication of the fact that the speakers do not differentiate two language systems. Probably the speech of the immigrants from the former USSR has not yet reached that boundary exceeding which two language systems are no longer subjected to differentiation in the mind of the speaker, although this issue is undoubtedly debatable and requires a more detailed psycholinguistic study. Asyndetic noun clusters of Hebrew (*smikhut*, סמיכות) undergo a morphological hybridization too: *"надо успеть до **эрев хага**"* (ערב חג *an evening on the eve of the Jewish holiday*); *"после **моцаэй шабата**"* (מוצאי שבת *Saturday evening, when it is allowed to work*); *"еду в **монит шируте**"* (מונית שירות *shuttle taxi*); *"работает в **эзор таасие**"* (אזור תעשייה *industrial zone*).

Other parts of speech are included to the transferred speech somewhat less commonly. In particular, the verbs are being adapted to the morphological rules of the Russian language:

"*Ну, как,* ***медабришь*** *уже понемногу?*" (man, 52 years old, living in Israel since 1991) – Hebrew מדבר *(you) speak*;

"*Надо как-то* ***мистадериться***" (man, 43 years old, living in Israel since 1993) – Hebrew מסתדר *(you) find yourself*;

"*Это тофес 205. Его надо* ***шмерить*** *для мас ахнасы*" (woman, 45 years old, living in Israel since 1993) – Hebrew שומר *(I) keep*.

It is interesting, however, that, in their interfered speech, the speakers involve Hebrew verbs in personal forms, and not in the infinitives, which would be logical in the case of compound verbal predicates, as in the last two examples. However, can one even speak of logic in the spontaneous and chaotic mixing of languages, which by its very nature violates the logic of language? The verbs in interfered speech, by the way, become an object of the most significant morphological deformation in an often subconscious endeavor of the speakers to adapt a foreign-language element to the rules of the native language grammar.

The phenomenon of spontaneous language mixing is also manifested in the use of other content words and function words of the Hebrew language in the speech:

"*Он* ***мамаш датишный-датишный***" (man, 52 years old, living in Israel since 1991) – Hebrew ממש *really*, דתי *religious*;

"*Поставь это* ***ба хуц***" (man, 42 years old, living in Israel since 1994) – Hebrew בחוץ *outside*;

"*Ты ж объясни, шо он, как бы,* ***мэсукан***" (woman, 53 years old, living in Israel since 1991) – Hebrew מסוכן *dangerous*;

"*Здесь надо быть* ***хуцпани***" (woman, 53 years old, living in Israel since 1991) – Hebrew חוצפני *brazen*;

"*Там нету* ***маспик*** *камута*" (woman, 45 years old, living in Israel since 1993) – Hebrew מספיק *enough*;

"***Нахон***" (woman, 45 years old, living in Israel since 1990) – Hebrew נכון *right*;

"*Ну,* ***вэ***?" (woman, 45 years old, living in Israel since 1990) – Hebrew ו *and*);

"***Аз ма***?" (woman, 53 years old, living in Israel since 1991) – Hebrew אז מה *so what*;

"*Ты шо,* ***хас вэ халила****!*" (woman, 53 years old, living in Israel since 1991) – חס וחלילה *God forbid*;

"*Будет тебе* ***ой-ва-вой****!*" (woman, 45 years old, living in Israel since 1993) – אוי ואבוי *oh my God!*;

"***Алевай****, шоб у нас так было*" (woman, 53 years old, living in Israel since 1991) – Hebrew הלוואי *for God's sake*;

The examples shown clearly demonstrate the inability of the speakers to control their speech and the arbitrary combination of the forms of both languages.

Somewhat a separate group of Hebrew words involved in the interfered speech of the representatives of The Great Aliyah turned out to be lexemes denoting concepts from the latest advances in science and technology (for example, "*включи* ***мазган***" (man, 52 years old, living in Israel since 1991) – Hebrew מזגן *air conditioning*; "*разогрей в* ***микрогале***" (woman, 53 years old, living in Israel since 1991) – Hebrew מיקרוגל *microwave oven*; "*перезвони мне на* ***пелефон***" (woman, 48 years old, living in Israel since 1999) – Hebrew פלאפון *cell phone*; "*мне надо в* ***каспомате*** *снять деньги с* ***картиса***" (woman, 53 years old, living in Israel since 1991) – Hebrew כספומט *ATM,* כרטיס *(bank) card*). The inclusion of such Hebrew words into the speech is due to extra-linguistic factors: the immigrants of "The Great Aliyah" first became acquainted with the corresponding technical achievements already in Israel, therefore, in their Russian-language thesaurus, the words denoting these concepts simply do not exist. In this case, by the way, the newly arrived immigrants, having in their lexicon the corresponding Russian words, also begin to use Hebrew equivalents instead, imitating the interfered speech of the immigrants of the previous wave, so, in general, the speech of both groups of immigrants is rather similar, although the factors that prompt the representatives of different waves of Aliyah to use transferred speech are different. By the way, it can be argued that the interfered speech of Russian-speaking Israelis leads to a change in their language and culture identity. Once in a noisy and emotional Israel, the immigrants practically immediately, so to speak, "from the air", learn and begin to use the following foreign language words and phrases:

- חוצפה (*impudence*);
- מה פתאום (*why on earth?*);
- מה אתה אומר (*what are you talking about?*).

Assimilating these frequent linguistic units, new citizens acquire the entire cultural layer that lies on their basis, and all the communicative-behavioral stereotypical situations that imply the use of these words:

"Шо це за ***хуцпа мин а клаль****?"* (*an extreme impudence*);

"Не поняла, ***ма зе а хуцпа а зот****?!"* (*what an impudence*);

*"****Ма питом*** *я буду це делать?"* (*why on earth*);

*"****Лё, ма питом****?!"* (*no, why on earth*);

"Тебе не кажется, шо це вже ***йотер мидай****?"* (*too much*);

*"****Ма зот омерет****?!"* (*what does it mean*).

At the same time an acquired communicative behavior is manifested even where there is no obvious interfered speech:

"Чо це вдруг?!";

"С какого такого перепугу?!".

It turns out that along with the appearance of an interfered speech the Russian-speaking immigrants experience a shift in their language and cultural identity: the interfered speech of Russian-speaking Israelis is connected to emotional excessiveness, hyperbolism and feeling it natural to react sharply to the phrases of the interlocutor (which is typical for the speech behavior of native Israelis).

Indeed, the influence of culture on the language is manifested in the peculiarity of the process of communication in different cultures, which is expressed in the features of vocabulary, grammar and stylistic norms of language; and the speech behavior of a person in different situations is determined by the cultural traditions of society (Mechkovskaia, 1996).

A separate form of an interfered speech, both from the point of view of its manifestations, and from the point of view of its causes, is the speech of the immigrants' children. The typical situation for this group of speakers is a very limited knowledge of the Russian language along with the fluent Hebrew. The point is that the children of the immigrants arriving in Israel immediately find themselves in a Hebrew-speaking environment (kindergarten, school), so they learn Hebrew rather quickly while the knowledge of the mother tongue is not enriched and remains at the previous level. Therefore, it becomes typical when an adult (and the children of the immigrants of "The Great Aliyah" have already grown up) is able to communicate only in primitive Russian, sometimes with phonetic interference (so-called Hebrew accent). Furthermore, these speakers' knowledge of Russian is usually limited to oral form only; an ability to write in Russian is rather an exception than a rule. Here is what novelist Dina Rubina writes about her son: *"Мой сын, охламон и неуч, когда остается без гроша в кармане, тайком приторговывает моими книгами. Он даже подписывает их: "Жилаю щастя. Афтор" (русский язык основательно подзабыл с тех пор, как его привезли сюда в небольшом возрасте)"* (Rubina, 2017, p. 13). At the same time, while trying to communicate in Russian, such speakers involve the Hebrew component into their speech not because they imitate someone or seek to reduce their linguistic efforts, but because they are simply unable to fill the lacuna, lacking the Russian thesaurus. It is also a common situation when not Russian, but Hebrew becomes the native language for such speakers, and in the case of communication in the interfered Russian, it is no longer about including foreign words, but about the interference of the words of the native language (Hebrew) with the speech in the foreign (Russian) language. The processes that occur to the speech of bilingual children are deeply analyzed by Sandra Ben-Zeev (1977), Ellen Bialystok (1987) and George Saunders (1982). Such a situation arose as a result of the interaction of two types of bilingualism (according to Susanne Romain (1995)): Non-dominant Home Language without Community Support (when parents communicate with the child in their native language, and the community in which the child is outside the family uses other language) and Mixed Languages (when parents are bilingual and communicate with the child, both switching codes and mixing them). In the speech of this group of speakers, we observe interference phenomena not only on the level of vocabulary and morphology, but also on other language levels – phonetic (pronouncing Russian sounds /p/, /x/ in the way native Israelis do, giving Hebrew intonation to the speech (especially in the case of interrogative sentences) and syntactic (constructing sentences according to the Hebrew logic, combining parts of complex sentences with the help of Hebrew conjunctions).

Separately, also literal translation of some Hebrew expressions and cliché should be noted, that is to say these speakers have already lost their "sense of language" and have become unable to distinguish the stylistic norms of the Russian language:

"*Ты поставила воду в цветы?*" (man, 30 years old, living in Israel since 1991) – a literal translation of the Hebrew לשים מים בפרחים *to water flowers*;

"*Шо слышно?*" (man, 30 years old, living in Israel since 1991) – a literal translation of the Hebrew etiquette cliché מה נשמע *what's up*;

"*Инна не здесь*" (woman, 24 years old, living in Israel since 1995) – a literal translation of the Hebrew יאנה לא פה *Inna is out*;

"*Я вернусь к тебе*" (in a telephone conversation) (woman, 26 years old, living in Israel since 1993) – a literal translation of the Hebrew אני אחזור אליך *I'll call you back*;

"*Сладкая вода*" (man, 30 years old, living in Israel since 1991) – a literal translation of the Hebrew מים מתוקים *fresh water*.

Following Susan M. Ervin (1961) we interpret such examples as belonging to the phenomenon of semantic interference, which consists in shifting the meaning of words arising under the influence of the second language. The following statements can be considered as examples of interference at the syntactic level:

"*Спроси его, если он сможет*" (man, 30 years old, living in Israel since 1991) – the dependent clause of the complex sentence is drawn up in Hebrew grammar (אם הוא יוכל) instead of the normative Russian clause "*сможет ли он*" with the selection of the wrong Russian equivalent of the Hebrew conjunction אם which has two equivalents in Russian ("*ли*" and "*если*");

"***Аз** я поехала туда, **аваль**...*" (woman, 26 years old, living in Israel since 1993) – composing a compound sentence using not Russian, but Hebrew conjunction אבל *but* and Hebrew discourse organizer אז instead of Russian "*итак*";

"***Аваль ани мэкава**, шо все получится*" (woman, 26 years old, living in Israel since 1993) – the main clause of the complex sentence is completely Hebrew (אבל אני מקווה *but I hope*).

In these examples, the speakers probably build the skeleton of the sentence according to the Hebrew model, and afterwards fill it with the Russian elements as much as they are able basing on their level of Russian. Some examples of Hebrew-Russian speech of the immigrants' children are presented by Israeli writer Dina Rubina in her essays, as she has been observing the speech of her own children:

– В общем, там подняли хай из-за фруктов... Представляешь, считали, кто сколько съел! И папа сказал детям: "Дети мои! Или вы съели эту сливу? Или вы хотите через это хорошо получить? Не говоря уже об совсем, умереть?.." (Rubina, 2017, p. 21);

Или когда мне звонят и, попадая на дочь (голоса похожи), спрашивают: "Это Дина?", она отвечает терпеливо: "Нет, это ребенок от Дины. Она не находится" (p. 28); (the replica is an example of the literal Hebrew calque);

– ...И тогда у мевия шней придурким, и те леагид какие-то штуйот! ("И тогда он привел двух придурков, и те стали говорить какие-то глупости") (p. 40).

"Our children are losing Russian language catastrophically!" – notes the writer with sadness in one of her essays (Rubina, 2017, p. 40).

The much greater degree of integration of the Hebrew component into the speech of the immigrants' children as compared to the speech of the first two groups ("newly arrived" and "experienced" immigrants) stands out a mile. In order to characterize this phenomenon in scientific terms, let us turn to the arguments of Roman Kis' (2002), who describes two varieties of hybrid Ukrainian-Russian speech according to the criterion of the depth of a foreign-language element's integration. The researcher points out that the first type of speech belongs to superficially creolized speech with a fragmentary intersection of foreign-language lexemes associated with socially significant aspects of life, but preserving the basic lexical core, grammatical and phonetic structure of the native language. Accordingly, the second type represents a deeply creolized speech with the predominance of borrowed vocabulary and phraseology and only a partial preservation of grammar and phonetics. These observations of the Russian-Ukrainian language hybrid, as it seems to us, can be applied to the phenomenon of interfered speech of the Russian-speaking Israelis. Thus, the speech of the "newly arrived" immigrants and the representatives of the Aliyah of the 1990s has signs of superficially creolized, whereas the speech of the immigrants' children more resembles a deeply creolized one. Although, probably, the term "creolized" speech does not entirely correspond to the essence of the phenomenon described, since the concept of "creolization" involves the full integration of both language systems to the speaker's consciousness, which we do not observe in the communicative ability of the Russian-speaking Israelis, able to switch code to spoken Hebrew without involving elements of Russian language.

2. Distribution of Samples of Language Transfer into the Styles of Mass-Media and Literature

Originating as a phenomenon of oral vernacular communication, the interfered Hebrew-Russian speech broadens the scope of its existence, forming its written base. The users of Internet forums and social networks, of course, use the interfered speech common to them, since Internet communication on such resources is informal in nature, close to spontaneous oral speech. Example:

*"Пардон... **ма а кешер** – ты проходила без толку, и поэтому мне тоже не надо?"* (Hebrew מה הקשר *what's the connection*);

*"Будет 15 февраля (**ём хамиши**), в Яд-Шмона, это в 15 километрах не доезжая до Иерусалима, практически на первом **квише** (район Абу-Гош)"* (Hebrew יום חמישי *Thursday;* כביש *highway*);

*"Накопилось очень много фотографий, хочу немного разгрузить **махшев**"* (Hebrew מחשב *computer*);

*"Кому нужно устроить бабушку-дедушку в **бейт авот**, могу рекомендовать"* (Hebrew בית אבות *nursing home*);

"Надо было цены на квартиры озвучить – во была бы ***пцаца****"* (Hebrew *bomb*);

"А если ***пинуи бинуи*** *получат. Вот так"* (Hebrew *ejectment for rebuilding*);

*"****Ирия*** *должна штрафовать за этот* ***балаган****"* (Hebrew *city council; mess*);

"Я в этом году поставила газовое отопление. Пусть ***хеврат хашмаль*** *отдыхает"* (Hebrew *power company*) (Besedka, 2017; Youtube, 2017).

Of course, such communication in the Internet, though presented in written form, is not an indication of the fact that written sources of the interfered speech have appeared and its functional existence has expanded. However, the penetration of the hybrid to the Russian-speaking media already gives us the reason to reflect on the growth of its communicative power and the entry to a new stage, because in this way the non-normative idiom becomes fixed in the style of mass-media, moreover in its written form. The language of the media in this sense is the mirror of the linguistic situation in which Russian-speaking Israelis live and reflects their language behavior. Therefore, we can observe heterogeneous groups of Hebrew words on the pages of Russian-speaking newspapers (Kol a-Sharon, 2016; Epokha, 2016; Vzgliad, 2016), and it is almost impossible to predict exactly which units will be involved in mass-media discourse, as well as to systematize them, since practically any loaned word can first spontaneously be included into the speech, and hence penetrate into printed media. Such Hebrew units are most likely to be seen in advertisements, which is natural, since the language of advertising tends to be the language used by the target audience of this advertisement in order to be closer and more understandable and, consequently, more effective. The interfered nature of the language of the newspapers is manifested not only in the inclusion of borrowed words, but also in the morphological hybridization, which is inherent also in the oral speech of Russian-speaking Israelis.

Fig. 1. The usage of the borrowed Hebrew word in the Russian text.

Let us take a look at the figure 1. This newspaper advertisement includes the Hebrew word *operation, campaign* which means "store promotion" in the colloquial speech. In Hebrew the word described belongs to the masculine gender, however, being involved into the interfered speech, it acquires the feminine gender, probably because of the ending *-a*, typical for nouns of the female gender in Russian. Giving the grammatical female gender to this borrowed word is also inherent in the oral speech of Russian-speaking Israelis. The borrowed word "*мивца*" becomes the basis for further word-formation processes, for example:

Fig.1. The literal translation of the Hebrew word in the Russian text.

*Супер****мивца****! Кабинет, детская в составе: кровать, шкаф, "сифрия"* (Коль а-Шарон, № 676, 5) (the last word comes from Hebrew *desk with bookshelves*)

By the way, as an option, the literal translation of this unit into Russian is also possible, which violates the norms of Russian usage (figure 2):

*Летнее **мероприятие**.*

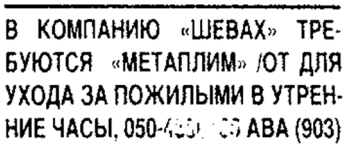
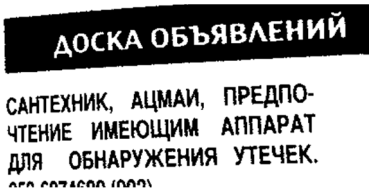

В КОМПАНИЮ «ШЕВАХ» ТРЕБУЮТСЯ «МЕТАПЛИМ» /ОТ ДЛЯ УХОДА ЗА ПОЖИЛЫМИ В УТРЕННИЕ ЧАСЫ, 050-[illegible] АВА (903)

Fig. 2. The usage of the borrowed Hebrew word in the Russian text.

Such non-normative usage, when an inadequate Russian equivalent is mistakenly chosen for a Hebrew word, is very reminiscent of the idiolect of the immigrants' children, which we have briefly described above. Let us take a look at one more newspaper advertisement (Fig.3). Hebrew word *social workers, nurses* (plural) is used without adaptation, although in oral speech hybrid forms such as "*метапэлеты*" or "*метаплоты*" are possible (usually women work as social workers, therefore, formations from the word-form of the feminine gender are more typical).


ДОСКА ОБЪЯВЛЕНИЙ

САНТЕХНИК, АЦМАИ, ПРЕДПОЧТЕНИЕ ИМЕЮЩИМ АППАРАТ ДЛЯ ОБНАРУЖЕНИЯ УТЕЧЕК. [illegible]

Fig.3. The usage of the Hebrew adjective in the Russian text.

Like the situation with the oral speech, borrowed nouns are not the only part of speech to penetrate into written discourse. For example, Fig.4 demonstrates the inclusion of the Hebrew adjective *independent, self-employed* into the Russian-language text. The reason for favoring a borrowed word over Russian is probably the fact that the immigrants have learned this word together with the new concept for them, since in the former USSR this kind of employment did not exist. Here are some more examples of borrowed adjectives and adverbs in the newspaper text: *Ссуды и кредиты наемным работникам, получающим*

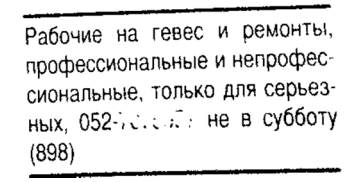

Рабочие на гевес и ремонты, профессиональные и непрофессиональные, только для серьезных, 052-[illegible] не в субботу (898)

Fig. 4. The usage of the borrowed Hebrew word instead of the Russian equivalent.

*пособие от битуах леуми, хозяев счетов "**мугбаль**" и "икуль"* (Hebrew *limited*); *Оптика **леуми** около супера* (Hebrew *national*); *Она, 30/167, приятная, худенькая, **академаит*** (Hebrew *educated*); *Страховка "**макиф**"* (Hebrew *full*). In addition to borrowing adjectives in the so-called "finished" form, there are also hybrid adjectives, formed from the Hebrew basis and Russian adjective suffixes:

*Этот маршрут проложили в 2003 году воспитанники молодежного **мошавного** движения в память о Йоси Яфе* –adjective *мошавный* is formed with the help of affixation from the Hebrew noun using the Russian adjective suffix *-н* according on the model of *весенний*, *лунный*, etc. *Работы по гевесу. Все виды **шаишных** работ* – the same way of word-formation. Unlike the previous illustration, where the borrowed word came into the interfered text, filling the lacuna, Fig.5 shows the inclusion of the Hebrew word *gypsum*, the Russian equivalent of which is well-known to the immigrants of "The Great Aliyah". Fig.6 demonstrates a similar example, where the advertizing text includes the noun *inspector*, the Russian equivalent of which is not a neologism, coming to the Russian language after the 1990s.

Fig. 5. The usage of the borrowed Hebrew word instead of the Russian equivalent.

These two examples reaffirm the idea of the spontaneity of the interfered speech, which can involve almost any Hebrew word, regardless of whether it has a translation equivalent in Russian.

The following illustrations demonstrate the written fixation of morphological hybridization. Let us take a look at the below line of the text in Fig.7. The Hebrew word *maturity* (which by means of metonymic transfer also started to mean the "maturity certificate") gained the Russian ending *-ы*, with the help of which Russian plural form is created, resulting in a borrowed word becoming hybrid. Sometimes we observe the duplication of this very Hebrew word with the Russian translation equivalent:

*Подготовка к экзаменам на аттестат зрелости (**багрут**).*

Fig. 6. The hybrid word-formation.

A similar example of the borrowed words' morphological hybridization is shown in Fig.8. The singular form of the word *jalousie* gains the same Russian ending *-ы*, with the help of which the Russian language forms plural form; thus the lexical unit of a mixed morphological type appears. In the same advertisement, the hybrid word is used one more time (the second line from below), where it has already gained a grammatical case according to the Russian model (forming the genitive case resembling Russian *крысы – крыс; звезды – звезд; росы – рос*) and due to phonetic similarity to these Russian words was spontaneously assigned to a feminine grammatical gender instead of the original masculine.

Fig. 7. The hybrid word-formation.

Gaining grammatical cases of the borrowed word according to the Russian model is also observed in the following example (Fig.9), where the Russian inflection *-ы* is added to the Hebrew noun *mortgage* forming the genitive case of the feminine gender singular. Here are some more examples of borrowed words' adaptation to the morphological features of the Russian language: *Вечер, который вел Арнольд Шамаилов, председатель **амуты** молодежи и студентов "Кешев", открылся поздравительным видеообращением председателя Кнессета Юлия Эдельштейна* (Hebrew *association*); *И хотя в Израиле расстояние от городов до **мошавов** и кибуцев не такое большое…* (Hebrew *village*); *В Ир-Ямим новая квартира от **каблана*** (Hebrew *contractor*); *В компанию опытного бурения требуются физически крепкие и энергичные для работы "на **шетахе**"* (Hebrew *territory*); *Работницы в **пицуцию*** (Hebrew *kiosk*); *2100 шек. включая **арнону** и воду* (Hebrew *rent*). In Hebrew there is no inflection to express grammatical case, and the plural form of the nouns is created using the endings *-im* and *-ot*, which means that all of the above units have acquired a hybrid morphological structure.

Fig. 8. The hybrid word-formation.

In addition to fixing in the style of the media, transferred speech also penetrates into the style of the literature. Here are some examples from the essays of Dina Rubina, in which she either uses Hebrew words to satirize their phonetic resemblance to Russian, or simply includes them into the speech of her characters and her author replicas:

*Что там невинная "**ялда**", повторяю, если наш преподаватель – неулыбчивая религиозная женщина в парике, в глухом, под подбородок, платье с длинным рукавом (в июле), каждые три минуты бодро повторяет непристойное слово "**схуёт**", от которого напрягается и переглядывается вся группа* (Rubina, 2017, p. 25) (Hebrew ילדה *girl;* זכויות *the rights*);

*– Боже мой! Боже мой! – вскрикнула она, всплеснув руками. – Что вы подумали?! Чек "**дахуй**" – это значит "отсроченный чек", а вы подумали… в моем доме!!!* (p. 26) (Hebrew צ'ק דחוי *debit check*);

*– "**Мудъаг**"! – повторял он хохоча*. 27, (Hebrew מודאג *worried*);

*И тогда тетка грозно покрикивает: "**Рэга**!!"* (p. 31) (Hebrew רגע *moment*);

*– Все, **геверет**, закрыли заседание Кнессета* (p. 33) (Hebrew גברת *miss*);

*Причем пассажиры ухитрялись одновременно орать и на **геверет**, и на водителя, так что для меня, по крайней мере, осталось неясным – на чьей они стороне* (p. 33);

*Прошло несколько лет, и я совершенно спокойно слушаю в последних известиях и про **мошавников**, и про **кибуцников**. Да что там! – абсолютно не моргнув глазом перевариваю какое-нибудь "**мемшала мехуевет**" (правительство обязано)* (p. 28);

Наконец, качнув кистью руки, расслабленно свисающей с приподнятой коленки, он говорит мне лениво, но вполне доброжелательно:

*– Спроси у водителя, **беседэр**?*(p. 36);

*До армии ругалась с этим "**мотэком**" по поводу полуночных песен под моим окном* (p. 38) (Hebrew מותק *darling*);

*Думаешь, это не болит? Болит, а как же! Но это **Исраэль**, **мотэк**, в Торе написано: жизнь в **Эрец-Исраэль** дается страданиями* (p. 44).

In her essays, the writer, perhaps without any intension, fixes in the style of literature both lexical interference and morphological hybridization with resulting mixed units, created on the basis of elements of two different systems: *мошавников, кибуцников, мотэком*. Inclusion of foreign language units into the literature text, even for achieving a comic effect, extends the functional base of non-normative interfered speech, and thus it goes beyond the boundaries of the existence in idiolects or sociolects.

3. The Sociolinguistic Character of Interfered Hebrew-Russian Speech

Let us synthesize the general picture that faced us. The interfered speech of Russian-speaking Israelis has peculiarities at all language levels. At the phonetic level there is a phonetic adaptation of borrowed words; a certain number of words, however, comes into the speech in the non-adapted form. On top of that, a specific intonation is transmitted from Hebrew, in particular the allocation of the last word of the subordinate clause with an ascending intonation, as well as the intonation formulation of interrogative sentences.

At the lexical level, we observe the dissimilar vocabulary being included into the speech (both lexemes of non-equivalence and those having exact equivalents in the Russian language). At the morphological level, we observe the hybridization of word forms, with the typical combination of the Hebrew root and the Russian ending or affixes. Furthermore, Hebrew words are spontaneously assigned to grammatical gender, plural form and grammatical case according to the rules of Russian grammar. At the syntactic level, we state that the sentences are being formed according to the Hebrew model (especially in the speech of the immigrants' children that changed the language environment in their infancy).

Having described the above phenomenon, we now have to reflect on its nature. Above, we called it "interfered (transferred) speech", but perhaps some other term would be more appropriate. For instance, Nina Mechkovskaia (1996), considering the speech of Russian emigrants, writes that the interference phenomena in their Russian speech is a kind of analogue of processes that lead to the creation of pidgins (for example, expressions like *забуковала тикеты, на сэйле, в инчах* in the English-speaking environment). Thus, by analogy, we can consider the speech of Russian-speaking Israelis in the same way. Especially, since it has elements that are inherent in pidgin, namely: the use of foreign vocabulary which is often deformed according to the rules of local phonetics, grammar and word formation (Mechkovskaia, 1996; Selivanova, 2006). Indeed, above, we have already mentioned many examples of such deformations. Here are some more:

"*Она* ***никайонщица***" – the noun is formed by the suffixal way of word-formation by adding the Russian suffix *-щиц* and the ending *-а* to the noun ניקיון *cleaning*;

"*Вам надо выйти на* ***Ахане***" – the word הגנה *Agana* (the name of the railway station in Tel Aviv) suffered phonetic changes in the speech of the immigrant from the Central Ukraine, and the sound /h/ inherent in Ukrainian appeared instead of normative /g/;

"*Я уже еду в* ***монитке***" – the borrowed word מונית *taxi* gained Russian diminutive suffix *-к-* and the feminine ending *-а*; the hybrid word also gained a grammatical case according to the Russian model;

"*Он называет меня* ***имочка****"* – the Hebrew word אימא *Mom* suffered a morphological hybridization by adding the Russian diminutive suffix *-чк-* and the feminine ending *-а*;

"***Милуимщик***" – the Russian suffix *-щик* forming the nouns to denote a male, usually a representative of a profession or kind of occupation (*крановщик, кладовщик, перекупщик*) is added to the borrowed word מילואים *troops of the reserve*;

"*Он работает на* ***мифале***" – the Hebrew word מפעל *plant* gained grammatical case according to the Russian grammar;

"*Надо поехать в Украину встретиться с* ***мишпахой***" – the Hebrew word משפחה *family* gained grammatical case according to the Russian grammar;

"*Сюда надо еще* ***мадбеку***" – the Hebrew word מדבקה *sticker* gained grammatical case according to the Russian grammar; "*У нас* ***мазкирой*** *работала лейцанит*" – the Hebrew word מזכירה *secretary* gained grammatical case according to the Russian grammar; the foreign lexeme ליצנית *woman clown* is included into the speech;

"*Если не будет ничего* ***дахуфного***" – the formation of a hybrid word based on the Hebrew basis דחוף *urgent* and Russian suffix *-н-* and the ending of the genitive case *-ого*;

"*И вот эти* ***медуячные хэлеки запасулили***" – the formation of the hybrid adjective from the Hebrew מדויק *precise* with the help of the Russian suffix and the ending, the formation of the plural form of the Hebrew noun חלק *detail* according to the Russian model, the formation of the hybrid verb from the Hebrew פסול *defective* using Russian affixes and ending.

Nevertheless, despite such a large number of features inherent in pidgin, we cannot treat the speech of Russian immigrants as if it is pidgin, since, as it follows from its definition, pidgin performs limited functions (trade, business, etc.) (Selivanova, 2006), and in this case there are no limited business functions.

Perhaps the interfered Hebrew-Russian speech can be attributed to the vernacular. For example, Olexandr Taranenko (2004) gives a definition of the concept of "vernacular", which fully corresponds to the analyzed phenomenon: the vernacular has no territorial or limited social boundaries, together with dialects and jargons being opposed to the standard language, and being used in the oral communication among people not familiar enough with the norms of the standard language. But here too everything is rather ambiguous, since the vernacular is a form of the existence of one language, and in this case it is about the presence of elements of two different languages in the speech.

On top of that, the Russian-speaking Israelis' speech has one more feature which also does not allow it to be attributed to vernacular or pidgin, namely the arbitrariness and chaotic way of the inclusion of Hebrew elements into the speech. Previously, we have already given examples that demonstrate that the speakers spontaneously assign the same Hebrew word either to one grammatical gender of the Russian language, or to another. Furthermore, the same speaker can differently compose the plural form of the borrowed word (for example, in the speech of one woman, we observed three variants of the use of the Hebrew word חומר *material* in the plural: *хомарим* (the plural form according to the rules of the Hebrew grammar); *хомеры* (the plural form according to the rules of the Russian grammar); *хомаримы* (a hybrid form combining the ending of the plural of both languages)). Moreover, one and the same idiolect may once include a borrowed word, and then its equivalent in the native language. Such a non-systematic nature makes it impossible to consider the phenomenon described as a sociolect, vernacular, and even pidgin, which is nevertheless a more or less systemic entity. Similar chaotic nature, by the way, is inherent in surzhyk and trasianka, which allowed the researchers of these phenomena to consider them as an entity of idiolects formed in multilingual diglossia (Bratski, 2007; Masenko, 2011; Miachkovskaia, 2007), in which the mixing of elements of the two languages has a spontaneous character, depending solely on the communicative situation. Obviously, the speech of Russian immigrants also represents the plurality of idiolects, because each speaker spontaneously chooses a foreign language element that he engages in his speech, as well as at his own discretion, intuitively, creates hybrid word forms.

Perhaps the phenomenon described just falls under the definition of "surzhyk"? Olena Selivanova (2006) defines surzhyk as artificially and unnaturally combined elements of two or more languages inherent in the speech of a certain part of the population, violating the norms of the standard language and being an extreme manifestation of the linguistic interference (transfer). Is our phenomenon similar to that described in the definition? In general, it is, since we are dealing with a certain part of the population (the immigrants from the former USSR), unnaturally combined elements of two languages (Hebrew and Russian), violation the linguistic norms and interference of two languages. Furthermore, Olena Selivanova (2006) writes that the factors of the resilience of surzhyk are: 1) the ability to imitate, which is manifested in the code-switching in order to enhance the status of one's own "face"; 2) adaptive abilities of a person; 3) the culture and the language of the family, inherited by children from their parents; 4) the language situation in the country and the language policy of the state, etc. All of these factors, as we have already noted above, are inherent in the analyzed phenomenon, namely, newly arrived immigrants quickly begin to imitate the speech of the immigrants of the previous waves; the use of interfered speech facilitates social adaptation of newly arrived immigrants; the language used in the families of Russian-speaking Israelis is also mixed, and because of this their children (especially those born in Israel) take such speech for the norm. And, last but not least, the uncompromising language policy of the State of Israel, which imposes Hebrew as the only language for the entire population, also acts as a significant factor in language interference among Russian-speaking citizens. So, actually, everything proves the fact that we are dealing with a phenomenon that is very similar to surzhyk. Moreover, the researcher of the Ukrainian Diaspora in Canada and the USA, Bohdan Azhniuk (1999), analyzing the interference processes in their speech, describes such speech as "a kind of Ukrainian-English surzhyk". However, Larysa Masenko (2011) is strongly against expanding the semantics of the term "surzhyk", insisting that the term "surzhyk" (as well as the term "trasianka") is a linguistic proper name, concerning only mixing Ukrainian and Russian, and speaking about mixing the other languages one should better call it a "macaronic language", that is to say "a language full of barbarisms". Really, the term "surzhyk" is consistently associated with the mixed Ukrainian-Russian speech; therefore, it is not to be used in the situation described. Perhaps the term "macaronic speech" indeed will be the most acceptable among all those mentioned.

In addition to the issue of nomination, we face another problem: how to qualify the analyzed phenomenon, since the main task in the description of language hybrids, such as the speech of Russian immigrants, is the distinction between interfered and mixed speech, as well as the establishment of an interference boundary, exceeding which the mixing of two languages and the non-differentiation of their elements begins. Larysa Masenko (2007) tried to analyze this issue on the material of surzhyk in her article. The question here is the following: whether the Hebrew elements in the immigrants' speech shake basic structures of the Russian language. Because if they do, the speech of Russian-speaking Israelis can be considered as mixed, and if not, it turns to be interfered, and these two concepts are completely different: in the interfered

speech, despite the speaker's violation of the language norms in different proportions, the grammar and word-formation structure of the sentences and the overwhelming part of the vocabulary still belong to one language, and the mechanism of code-switching is still preserved to some extent; whereas the mixed (hybrid) speech speaker's mechanism of code-switching, which usually does not allow to confuse the languages, is broken, and the speaker cannot speak only in one language since he / she does not distinguish between two different language systems (Masenko, 2011). Probably, the described speech is rather an interfered one, because the former immigrants, speaking Hebrew, do not mix Russian words there, that is to say that their mechanism of code-switching is not destroyed.

However, on the other hand, the language becomes a mixed (hybrid) one, if its most stable morphological system is violated under the influence of another language: if the mixing has not gone beyond the grammatical system of language being formed during ages, then the speech does not exceed the interference boundaries; if the morphological system of language is destroyed under the pressure of a foreign language, then the language becomes a mixed one, borrowing grammatical elements from both languages (Masenko, 2011). In addition to the morphological and lexical levels, in a mixed language there are also shifts at the phonetic level (Masenko, 2011). Violations of all three systems are actually observed in the speech of Russian-speaking Israelis. By the way, Max Weinraich, studying the Hebrew component of Yiddish, which is included into the speech in assimilated form and is an organic part of ordinary, common language, called it "mixed Hebrew" (Berdnikova, 2006). Therefore, there are arguments in favor of considering the speech of Russian-speaking Israelis a mixed one, and the final and unambiguous conclusion cannot be made at this time. Most likely, each idiolect should be considered separately, since the degree of mixing the two languages differs in the speech of different speakers, therefore, in some speakers' speech the interference boundary is not yet exceeded, and the speech of the others has already become mixed. At first glance, it seems that the interference boundary is exceeded only in the speech of immigrants' children, but nevertheless it is necessary to analyze each case separately.

In any case, the actual task is to create a representative base for field research of the speech of the immigrants from the former USSR, since it will allow distinguishing more of its features, clarifying its definition, linguistic nature and place in the system of oral forms of language existence.

Conclusions.

Observing the speech of the Israeli immigrants from the former USSR revealed that all Russian-speaking Israelis, regardless of how long they have been living in Israel, speak an interfered (transferred) Hebrew-Russian language while trying to speak Russian. In this case, the interference is manifested at all language levels: phonetic, lexical, morphological and syntactic. At the phonetic level there is a phonetic adaptation of the Hebrew words to Russian (or Ukrainian, depending on where the immigrants come from) pronunciation, as well as the allocation of the last word of the subordinate clause with an ascending intonation, the intonation formulation of interrogative sentences, inherent Hebrew.

At the lexical level, the linguistic interference is manifested in the penetration of heterogeneous Hebrew vocabulary into the Russian speech. Our attempts to classify the Hebrew words that are most often involved into the interfered speech of the immigrants from the former Soviet Union have not been much successful, since, as our field records show, completely different foreign words come into the interfered speech. Using both Hebrew and corresponding Russian words even in the context of one and the same phrase confirms the hypothesis of the chaotic, spontaneous nature of mixing Russian and Hebrew in the speech of the Russian-speaking Israelis. At the morphological level, we observe hybridization of word forms; a combination of the Hebrew root and the Russian ending or affix is typical. On top of that, there is a spontaneous assignment of Hebrew words to grammatical gender, number and case according to the rules of Russian grammar. Usually such morphological distortions take place in Hebrew nouns, but similar phenomena are inherent in other parts of the Hebrew language, too. At the syntactic level, we observe the composing of the sentences according to the Hebrew model (especially in the speech of the immigrants' children who changed the language environment in childhood). The examples from the texts of mass-media and literature show that the interfered Hebrew-Russian speech has gone beyond the oral vernacular and transformed into a powerful communication medium with its own written basis. Reflecting on the sociolinguistic nature of the Hebrew-Russian idiom, we have found that it has features that are inherent in both vernacular, and pidgin or surzhyk, but at the same time, for a number of reasons it is impossible to refer it to one of these concepts without any doubt. Perhaps the most appropriate nomination of the phenomenon described is the term "macaronic speech". Moreover, due to the lack of representative field material, it is quite difficult to determine whether the analyzed speech should be interpreted as an interfered one, or whether it is already a mixed one. Studying these issues is the prospect of further sociolinguistic research.

References.

Azhniuk, B. (1999). *Movna iednist' natsii: diaspora i Ukraina* [The Language entity of the nation: the Diaspora and Ukraine]. Kyiv: Vydavnychyi dim Dmytra Buraho.

Ben-Zeev, S. (1977). The influence of bilingualism on cognitive strategy and cognitive development, *Child development, 48,* 1009-1018.

Berdnikova, O. (2006). *Semits'kyi komponent u movi idysh* [The semitic component in Yiddish]. Kyiv: Instytut skhodoznavstva im. Ahatanhela Kryms'koho NAN Ukrainy.

Besedka. (2017, December 12). Besedka – Russkoiazychnyi forum v Izraile [Besedka – the Russian-speaking forum in Israel]. *Besedka*. Retrieved from http://besedka.co.il/index.php?showtopic=7256&st=220.

Bialystok, E. (1987). Words as things: Development of word concept by bilingual children, *Studies in Second Language Learning, 9,* 133-140.

Bratski, A. (2007). Surzhyk – opys i vyznachennia ramok iavyshcha" [Surzhyk – the description and determinig the frames of the existence], *Studii z ukrainistyky. Skarby kul'tury – bezsmertia natsii, VII,* 132-145.

Epokha. (2016, August 3-9). №1079.

Ervin, S. M. (1961). Semantic Shift in Billingualism, *The Americal Journal of Psychology, 74,* 233-241.

Iezhenedel'nik Kol a-Sharon. (2016, August 11). №678.

Iezhenedel'nik Kol a-Sharon. (2016, July 28). №676.

Kis', R. (2002). The language, the thought and the culture reality (from Oleksandr Potebnia to the hypothesis of the language relativity). Lviv: Litopys.

Masenko, L. (2007). Surzhyk u systemi rozmovnykh form pobutuvannia ukrains'koi movy [Surzhyk in the system of the oral forms of the Ukrainian language existence], *Dyvoslovo, 12,* 26-31.

Masenko, L. (2011). Surzhyk: between Ukrainian and Russian. Kyiv: Vydavnychyi dim "Kyievo-Mohylians'ka akademiia".

Mechkovskaia, N. (1996). *Sotsial'naia lingvistika: posobiie dlia studentov gumanitarnykh vuzov i uchashchikhsia litseiev* [Social linguistics: a studybook for the Humanities' students]. Moskow: Aspekt Press.

Miachkovskaia, N. (2007). Trasianka v kantynuumie bielaruska-ruskikh idyialiektav: khto i kali razmavliaie na trasiantsy?" [Trasianka in the continuum of the Belorus-Russian idiolects: who and when speeks trasianka?], *Vesnik BDU, 1,* 91-97.

Morozov, V. (2015). *"Russkii Izrail': Vliianiie Repatriantov na Rossiisko-Izrail'skiie Otnosheniia* [The "Russian" Israel: the Influence of the Immigrants towands the Relations between Russia and Israel]. Moskow: MGIMO University.

Nikol'skii, L. (1976). *Sinkhronnaia sotsiolingvistika: teoriia i problemy* [The synchrony linguistics: the theory and the problems]. Moskow: Nauka.

Romaine, S. (1995). *Bilingualism (2nd edition)*. Malden, MA: Blackwell Publishing.

Rubina, D. (2017). I wish you happiness. The author (Essays). Moskow, Eksmo.

Saunders, G. (1982). *Bilingual children: Guidance for the family*. Clevedon: Multilingual matters.

Selihei, P. (2012). The language consciousness: the structure, the typology, the bringing up. Kyiv: Vydavnychyi dim "Kyievo-Mohylians'ka akademiia".

Selivanova, O. (2006). *Suchasna linhvistuka: terminolohichna entsyklopediia* [Modern linguistics: the terminological encyclopedia]. Poltava: Dovkillia-K.

Skopina-Paradias, V. (2008). The language adaptation of the Russian-speaking migrants in Greece and Israel. *Russkii iazyk i literatura v uchebnykh zavedeniiakh: nauchno-metodicheskii zhurnal, 3,* 36-45.

Taranenko, O. (2004). Surzhyk. In V. M. Rusanivs'kyi (Ed.), *Ukrains'ka Mova. Entsyklopediia.* (p. 558). Kyiv, Vydavnytstvo "Ukrains'ka entsyklopediia".

Versiia-News. (2016, July 28). №48.

Youtube. (2017). Netanya Non-Touristic. The Market. The Slum. *Youtube*. Retrieved from https://www.youtube.com/watch?v=KEl_fvvJniQ.

Anna Zarytska
PhD in Pedagogy, Head of Subject (Cyclical)
Board of vocal training staff of Lutsk Pedagogical College,
Lutsk, Ukraine
Bohdana Zhorniak
PhD in Pedagogy, Head of the Department
of Musical Disciplines of Lutsk Pedagogical College,
Lutsk, Ukraine
Iryna Rehulich
PhD in Study of Arts, Head of Subject (Cyclical)
Board of conducting music teachers of Lutsk Pedagogical College,
Lutsk, Ukraine

SCIENTIFIC-METHODICAL SYSTEM FOR THE PROFESSIONAL QUALITIES FORMATION OF MUSIC TEACHERS IN PEDAGOGICAL COLLEGE

Abstract. *The scientific and methodical system for the professional qualities formation of a music teacher in pedagogical college is outlined. The basic theoretical bases of pedagogical technologies used in modern art-pedagogical education are determined. The problems of pedagogical modeling as the basis for building a system of educational process in the pedagogical college are singled out. The general characteristic of the organizational-methodical system for the professional qualities formation of a future music teacher is presented. The specifics of the professional training process of future music teachers in the pedagogical college are examined; the forms and methods of professional training and organization of artistic and creative activity of students are considered. The basic pedagogical principles and approaches to modeling the system of the professional qualities formation of future music teachers are determined. The fundamental didactic principles for professional training of future music teachers for forming their professionally important qualities are substantiated.*

JEL Classifacation: I20

Introduction.

Today, the relevance of the scientific study of the problem of the professional qualities formation of a future music teacher is due to the urgent socio-pedagogical significance of the problem of ensuring the improvement of the qualitative teacher training in modern pedagogical institutions of higher education. It is caused by insufficient theoretical development and practical realizing it in the context of a modern humanistic, personally oriented educational paradigm. The atmosphere of socio-economic, ideological, political and cultural transformations in Ukraine (these transformations are connected with worldwide trends of globalization, integration and IT penetration) requires a new vision of the goals and objectives of pedagogical education, its role in social, socio-cultural life.

The modern pace of development of science, technology, culture and art, constant updating and changes in the content of the professional activities of many specialists bring forth one of the most burning problems – the scientific substantiation of the content of education in higher education (Aleksjuk, 1998).

Nowadays, fundamental changes are taking place in all spheres of educational activity – methodology, functions, forms and methods, teaching techniques, trends in the development of pedagogical process, values priorities, establishments and guidelines, in the system of inter-educational communication and relationships. Pedagogical innovation is reflected in the new content of education, increased requirements for the qualitative education, new principles and approaches to pedagogical staff training.

1. Pedagogical modeling as the basis for building a system of educational process in pedagogical college

The main task of contemporary musical and pedagogical education is the development of the personal potential of a future music pedagogue; enlighten it by the system of scientific knowledge in various fields of pedagogy, psychology, art, defining a scientifically-based strategy, tactics and procedure of pedagogical work; the methodology of scientific knowledge; a complex of practical artistic and creative skills; the formation of one's professional readiness for the chosen profession; the upbringing of the constant need for deepening of professional knowledge, self-education, self-teaching, self-improvement, personal professional development and growth.

Within this framework, the institution of higher education becomes increasingly important as a significant social and educational object. It is not only aimed at acquiring a profession but also solving the problems of preparing national personnel of a fundamentally new quality. These new specialists should obtain high professionalism in combination with the appropriate spirituality, culture and serious humanitarian training, humanistic ideological positions. At the same time, they must be enterprising and able quickly adapt to transformational and rapid innovational changes that are caused by the achievements of scientific and technological and social progress. It is such training of specialists that we consider today the main task of our educational system (Ryabov, 1997).

The prognostic goal of an educational institution involves global general and vocational education, the inclusive development of the student's personality, the formation of his/her universal human values, important personal and socially significant professional qualities. We consider the training of a future music teachers as acquiring by them a set of professional knowledge, skills and abilities in the process of thorough mastering of socio-cultural, psychological, pedagogical and professional disciplines, the formation of professionally important and personally significant qualities, the development of creative potential of the individual, ensuring readiness for a successful self-realization and continuous professional self-improvement.

All mentioned above leads to the creation of a new objective and perspective model of pedagogical process organization under the conditions of higher education in pedagogical training and the formation personal and professional qualities of students. The problem of modeling pedagogical phenomena was studied by V. Adolf, H. Ball, V. Voitko, N. Kuzmina, A. Markova, V. Mikhieiev, O. Savchenko, S. Slastonin, S.Smyrnov, etc.

Modeling in pedagogy is an important means of scientific research. With the help of modeling it is possible to establish regularities, properties, circumstances for constructing a system of pedagogical process; to determine orientation in pedagogical activity; to introduce a general methodological system and to launch a program and performance technology; reflect an idea, a certain process, a pedagogical phenomenon in general.

Simulation is the basis of building any system of educational process. Thus, the model of professionally important personal qualities, represented by A. Markova includes: motivational, volitional, emotional sphere of a specialist (motives, goals, tasks, needs, interests, attitudes, values-based human orientations, psychological positions); professional inclinations, professional self-esteem, self-awareness as a professional; emotions, mental states, emotional image; satisfaction of man with labor, its process and result; awareness of work, occupation; actions, methods, techniques, skills, techniques, psychotechnologies, professional abilities, professional training, openness to professional growth, professional thinking, creativity, the ability to enrich the experience of a profession, etc (Markova, 1990).

The model we designed as an effective pedagogical system determines the purposeful pedagogical process of forming the professional qualities of the future teacher, the concrete actions of the teacher and students, methods and means, scientific and methodological provision of the teaching of special subjects and the predicted results are obtained. The model is considered by us as a designation of the dynamics of professional and intellectual development of the student within the framework of the main activities of the pedagogical college.

We believe that the model of formation of the future teacher-specialist should take into account such factors and meet the important conditions, namely: the model must clearly define the purpose, goals and objectives of the educational process and design the desired result; must ensure the unity of the main pedagogical, psychological and methodological components of pedagogical process; should have a high explanatory capacity of existing actions, facts, ability to predict possible patterns and trends in the development of research processes; in the structure of the model it is necessary to specify the functions of participants in the pedagogical process and the sequence of pedagogical actions implementation; the model should contain the appropriate amount of information; the structure of the model must be dynamic; the structure of the model requires the coherence and subordination of its main components that form new professional qualities, the overall purpose of the model; the content of the model should be constantly updated, adjusted; the structural components of the model should be optimally balanced according to certain professional requests; the model should provide an opportunity to achieve the predicted goal, tasks, actions, activities of all participants in pedagogical process.

The process of modeling the pedagogical system for the formation of professional qualities of future music teachers includes the following stages: studying and analyzing the current state of pedagogical process organization, the allocation of its essential features; the formulation of specific goals and objectives for improving the organization of the pedagogical process; definition of the basic parameters, relations, interconnections and interdependencies in

this work; the construction of a structural-functional model for the formation of students' professional qualities; theoretical substantiation of the model; checking the optimality of the model, meeting its real requirements and practice requirements and predicting results.

Of course, simulation does not absorb all the diversity and complexity of real management pedagogical process. The purpose of the simulation is to determine the main, essential, general significance in the managerial aspect and to ensure controllability of the process. Therefore, when developing a functional model, it is important to take into account the educational, socio-cultural, pedagogical and other features and possibilities of a particular educational institution, the potential of the teaching staff.

In modern science, the various aspects of the problem of forming the personality of the teacher of the future are reflected in the works of V. Andrieieva, V. Buriaka, K. Havrylovets, H. Holovakhy, S. Honcharenka, I. Kazymirskoi, L.. Kondrashovoi, N. Kuzminoi, A. Kuzminskoho, N. Kukharieva, etc. A number of models of the teacher's personality of the future have been developed. The necessary qualities of such personality are competence, creativity, humanity, intelligence, optimism, pedagogical ethics, ability to life and professional self-identification and self-improvement.

The *competence* of the teacher is expressed in his/her philosophical views, spacious mind, the high level of professional and psycho-pedagogical knowledge, the formation of abilities and skills of applying innovative technologies in practice.

Creativity is expressed in the originality of thinking, the independence of judgments, the creative approach to solving the tasks, the constant need for creative search for ways to update and improve the living conditions of the individual.

Humanity manifests itself in love for children, kindness, sympathy, realization in the process of pedagogical activity of the principles of interaction, cooperation and co-creation, creating a situation of success.

Intelligence involves a high level of spiritual, moral, emotional and aesthetic culture, the interconnection of gained knowledge, skills and abilities with the internal need to behave according to them.

Optimism means belief in oneself, in its strengths and opportunities, in the confidence in the results of its own activities, the ability to enjoy life, their achievements, the successes of others.

Pedagogical ethics is as a kind of ethics that addresses the problems of pedagogy of relationships and is associated with education, procedural professional behavior of the teacher. The capacity for vital and professional self-identification and self-improvement is expressed in developed emotional and volitional qualities, possessing the methods of reflective thinking (self-examination, self-esteem), in the need and readiness to study continuously both in professional and in personal and social life.

The polimath is a harmonious person, brought up, moral, active, able to adapt to the conditions of social life, take the responsibility.

2. General characteristics of the organizational and methodical system of forming the professional qualities of a future music teacher

Pedagogical management of the educational process of forming the professional qualities of a student at pedagogical college requires the creation of optimal external and internal conditions for the purposeful formation of his/her personality as a professional, the rational use of specific educational musical and creative possibilities, the forms and types of educational work and morale building activities.

In the aspect of our study, it is important to identify the main ideas and structural components of building an educational process for the formation of future teacher professional qualities.

We developed and implemented in the educational process a multilevel structural and functional prognostic pedagogical model which reflected the purpose and task of forming the professional qualities of the teacher's personality and ways of their implementation in the pedagogical process of the pedagogical college. This is a sign system with the help of it we can recreate the technology of the didactic process of formation the professional qualities of a future music teacher as the subject of our study. It is based on the system-structural, invariant approach to the organization of educational process, which provides a combination of traditional and innovative forms, methods, techniques of musical-theoretical and practical pedagogical activities, helps to reveal the mechanism of the occurrence of relevant processes of professional qualities formation and includes interrelated criteria and indicators. These criteria and indicators form the integral unity of its basic components: content-target, technological (functional-procedural), organizational (managerial), result-evaluated).

The *content-target* components are socially-motivational factors (goals, tasks) of training a qualified teacher. The purpose is a definition, theoretical substantiation and experimental verification of the pedagogical process of professional qualities formation of a future teacher. Tasks are aimed at activating students' cognitive and creative activity, their intellectual and professional development according to universal human and professional-pedagogical values, professional competences, formation of social experience of full creative activity. The component defines the goals of education in social and personal dimensions; theoretical and methodological approaches, didactic principles, motives and forms of educational activity; organizational functions, instructional techniques and means of forming the professional qualities of future music teachers.

The *technological* or functional-procedural component involves the methodological principles and organizational and pedagogical conditions for the formation of the professional qualities of students: the personally oriented content of education; compliance with the content of vocational training for inquiries of future pedagogical activities; differentiation of students on the level of their general and intellectual development; the application of pedagogical technologies, adequate to the tasks of professional training of a

future teacher; the use of opportunities for independent work of students; the methods of subject-subject optimal interaction between the teacher and students. Technological component defines the basic principles of the pedagogical modeling of pedagogical process in the center of which is the student's personality; the structure and characteristics of the pedagogical process; educational technologies and forms of educational work: traditional classroom (lectures, seminars, practical classes, credits), interactive (educational discussions, round table discussions, educational-didactic games, conferences, contests, intellectual competitions, etc.); didactic provision of the educational process: textbooks, teaching aids, reference literature, computer technology, information technologies, etc.).

The *organizational* or managerial component determines the pedagogically appropriate means for the implementation of the pedagogical conditions for the formation of professional qualities of students: diagnostic; indicative-prognostic; constructive-designing; analytical-evaluative; scientific-research, exploratory-creative. Organizational component determines the structure of the process of professional qualities formation: structural and functional components (targeting orientation of the didactic process, emotional and evaluative component, functions, determined by the specifics of educational activity, functions that are predetermined by personal self-fulfillment structure of the individual; self-education and self-development of the individual); substantive aspects: motivational-value; content-procedural; reflexive corrective; cognitive; active; the feedback during the professional qualities formation of students in the process of theoretical and practical classes, educational work.

Effectively-evaluative component it is a final diagnosis, evaluation, correction: definition of criteria and levels of professional qualities formation of students; the evaluation of intermediate and final learning outcomes that are focused on the initial and final diagnosis of the levels of students' professional development; the correlation of the teacher's assessment of the student's self-esteem; humanistic monitoring of the applied pedagogical system as a whole.

According to the above mentioned components, criteria (with the help of these characteristic features the level of professional qualities formation of a student is estimated) and indicators are developed (qualitative characteristics of the formation of a certain criterion):

Motivational-value criterion proves that a student has active cognitive interest in musical education, motivation to study at a pedagogical college, the significance of a music teacher profession. This criterion is manifested in the following aspects: the awareness of the goals and tasks of the educational work of a music teacher; the understanding of personal goals and professional motives; internal motivation and emotional-value attitude towards artistic and educational activity; developed cognitive interests; positive attitude towards learning; personal musical and stage activity; critical comprehension of ones own value orientations and attitudes towards artistic and aesthetic activity; the intensification of the processes of professional self-improvement.

The *gnostic* criterion that demonstrates the integrity of the student's representations about the surrounding world, about himself/herself and other people, about the purpose and tasks of musical-pedagogical education, the pedagogical activity of a music teacher. This criterion is manifested in the following aspects: the student's gnostic abilities; integral unity of psychological and pedagogical knowledge about the functions of subjects of the pedagogical process; the formation of general educational skills and abilities; the ability to master creative modern techniques, the scientific methods of pedagogical research.

Information-cognitive criterion that is determined by the degree of student's acquisition of systematic scientific and theoretical knowledge in pedagogy, psychology, art studies, methodological and theoretical knowledge, the experience in practical artistic and aesthetic activity. This criterion is characterized by the following aspects: the development of analytical knowledge and professional skills of a student; the awareness of the worth of acquisition of systematized knowledge; student's knowledge about the innovative teaching technologies, modern methods, perspective pedagogical experience; the understanding of the importance of musical art as a cultural value and an important means of artistic and aesthetic education of the individual; the ability to choose the best ways to solve pedagogical-professional problems in art training and educational activities; motivation for self-improvement, professional growth.

Value-aesthetic or emotional-evaluative criterion includes the student's ability to identify themselves with the values of the artistic and aesthetic environment. This criterion reflects the level of formation of emotional and appraisal attitude to musical art, the formation of the professional position of a future music teacher. Value-aesthetic criterion is determined by the following aspects: complete aesthetic individual development; aesthetic attitude to reality; the ability to emotionally recognize the art of music; the comprehension of personal artistic value orientations and attitude towards artistic and aesthetic phenomena; the level of artistic and aesthetic culture, aesthetic needs, tastes, feelings; humanistic worldview associated with awareness of their own artistic values, beliefs and behavior of the student; the ability to control one’s own feelings, emotions; the formation of socially valuable behavior of the student.

Creative-communicative criterion in the system of pedagogical-professional communication is considered by us as the ability to consciously perceive the surrounding reality, to find imaginative ways to the solution of pedagogical problems, to choose pedagogically appropriate communicative methods and means of educational co-authorship. Its aspects are: the ability to creative pedagogical activity that is based on the ability to communicate and collaborate with students, their parents, colleagues; the ability to communicate with artistic values in the process of active musical and creative activity; openness to artistic and pedagogical innovations.

Reflexive-creative criterion is the manifestation of the highest form of activity and creativity of a future teacher, his/her ability to produce new knowledge and skills.

It involves the reflection of the student's acquired experience in artistic and educational activities, the formation of a future teacher of creative pedagogical thinking. This style of thinking provides readiness for pedagogical innovations, reinterpretation of pedagogical phenomena and processes and the developing own pedagogical style. Its aspects are: personal value attitude to pedagogical knowledge and skills; creative pedagogical personality orientation; the capacity to professional reflection; professional mobility; the ability to find imaginative ways to the solution of pedagogical problems; the desire for professional self-development and self-realization.

Perceptional-reflexive criterion determines the conscious perception of a future music teacher his/her own niche and role in the system of professional artistic profile, the individual definition in the world of artistic values based on musical and pedagogical knowledge and professional artistic competencies, personal abilities and qualities. Its aspects are: the level of perceptive-reflexive abilities, his/her own sensual culture; the ability to feel the mental condition of participants in the pedagogical process; ability to pedagogical cooperation, subject-subject interaction; stimulation to self-improvement and professional growth.

3. Pedagogical principles and approaches to modeling the system of professional qualities formation of future music teachers

In the process of research, we proceeded from the fact that the modeling method is a method of scientific cognition. This method enables to construct an individual model for the organization of the pedagogical process, taking into account the features and possibilities, traditions of the teaching staff, social conditions of educational institution functioning, tasks facing the pedagogical staff. The model development of students' professional qualities formation reproduces the process (that we are investigating) and helps to highlight the mechanisms for the occurrence of single acts, regularities, phenomena and connections between them in the investigated process. We have adhered to important general didactic principles and methodological approaches to the organization of educational-bringing-up process. These principles ensure the unity of education, upbringing and personality development of a future teacher. Modern fundamental principles of instructional design of educational and cognitive activity are scientific character, specificity, systemacity, optimality, individuality, communicative orientation, dialogic cooperation, continuity.

Let's consider the essence of above mentioned principles in relation to the optimal predictive model of students' professional-pedagogical qualities formation.

The principle of *scientific character* means that the content of the model should be based on the scientific substantiation of the problem being investigated, the methodological foundations of pedagogical theory and practice, modern trends in the philosophy of pedagogical education, the best domestic and foreign experience on the problem under study. The principle of *specificity* involves a specific aim, scientific purpose, content, operating objectives and functions of the developed model; consistency of students' theoretical and practical training; student acquisition of specific teaching material within the

relevant subject, topic, section; a well-defined structure and a system of diagnostic and educational work for the formation of future teachers' professional qualities.

The principle of *systemicity* causes system construction for the formation of future music teachers' professional qualities as a whole and as an assembly of research elements of any subsystem, providing its meaningful links with other structural elements of the educational process. The principle of *explanatory capacity* requires not only to explain the facts, pedagogical actions but also to predict possible patterns and trends in the pedagogical process of forming future teachers' professional qualities.

The principle of *optimality* involves the achievement by each student the highest level of knowledge, skills, work methods, professional growth that are possible in certain specific learning conditions at a reasonable time consumption and strength of the subjects of the educational process. The optimal pedagogical conditions include the use of modern effective forms and methods of teaching, the possibilities of independent research work, proper didactic support (scientific and informative), creative orientation of the educational process, the correspondence of the content of the students' professional training to the demands of their future professional activities.

The principle of *individuality* is the cause for ensuring the formation and maximum personality development. *Communicative orientation* principle involves providing in the pedagogical process the formation of the professional qualities of the partner, empathic type of relations between the teacher and the students. The process of communication between the teacher and the students involves a favorable emotional study background.

Communicatively oriented vocational training ensures the formation of students' communicative competences, intellectual abilities, cultural behavior that promotes the formation of harmonious relationships with students and colleagues.

Dialogic cooperation principle provides new qualities of learning – democratic nature, active/dynamic way of receiving new information, constant feedback. Modern dialogic teaching methods: topical lecture, round-table discussion lessons, polemical communication (seminar, pedagogical discussion, the analysis of pedagogical situations), a specially organized role-playing game. All the above mentioned methods are considered as a means of forming the intellectual, psychological and social readiness of future teachers for effective pedagogical interaction.

Developmental teaching principle requires the organization of educational process that would contribute to the development of evident and dormant faculties of students. New knowledge and skills should be based on the already known and digested material and facilitate the transition of intellectual and professional development of the student to a higher level.

The principle of *problematic-situational organization of teaching process* the implementation of it involves the use of forms and methods of training that provide an active attitude to knowledge acquisition, intensive development of independent cognitive activity and individual creative qualities, stimulation of scientific research, going above the established learning standards.

The principle of *continuity* (as an orientation principle of the construction of education) reflects the main direction of its improvement, the achievement of an integral educational process, the integration of all levels of qualification of a future teacher. This principle involves the consistent monitoring of the results of educational activities of students at all levels (from the first to the fourth year students).

The principle of *personal self-identification and self-fulfilment* occurs when self-identification is regarded as the ability of the individual to define the aim and purposes that coincide with its inner world (Zhornjak, 2018).

The details of our model of formation of future teachers' professional qualities lie in the fact that we need to provide an integral system of pedagogical approaches to the educational process in pedagogical college. The main approaches are:

Axiopedagogical, humanistic approach is based on humanistic orientations and involves a values-based attitude towards a person, the development of his/her personal inner freedom and opportunities (potential). Accordingly, the humanization of education is considered as a paradigm based on a human-centric approach, the recognition of a person as the highest social value, respect for the individual, his/her inquiries and interests, the creation of conditions for human development, his/her continuous improvement, self-development, self-identification and self-realization.

Competency-based approach highlights the pedagogical ability to solve educational problems on the basis of gained knowledge, skills and experience. Competency-based model of teaching involves active designing of the educational process, increasing in volume of students' individual work, the accumulation of practical professional experience, self-education and self-perfection of the personality.

Person-centered approach is implemented through the individualization of training, the choice of class assignments and exercises that promote the effective individual development of each student. An individual approach allows identifying the optimal content, structure and teaching methodology for educational material.

Subjective approach in the study, the essence is to create for each student the situation of the subject position. This position provides the opportunity to independently determine the aim, purposes of activities, to make an independent choice of work methods, taking into account individual capabilities, to analyze and evaluate its process and results.

An *interactive* approach where a teacher and a student are in the position of equal active partnership in the process of class activities organization, such as: its project planning, preparation, implementation and appraisal of results. This approach successfully forms: adaptive capacity of a student in the group, to exchange information; the ability to formulate and put forward own ideas, hypotheses, projects; the ability to recognize and define the problem; operating skills with diverse sources of information; readiness to make decisions in non-standard problem situations; the ability to clearly and convincingly express their views.

Personal-activity approach is ensured by individualization and differentiation of the pedagogical process and involves in the teaching process the position of "free search", improvisation, independence, creativity, invariant content of educational material.

The dominant model and organization of all work on the formation of future teachers' professional qualities is an *individual-creative* approach. The main tasks of this approach is the development of students' creative abilities in understanding the pedagogical phenomena, processes, regularities, the formation of personality-individual professional competences and skills to guide them in pedagogical activities. An individual-creative approach requires the individualization and personalization of the educational process. It is a prerequisite for the effectiveness of all the latest approaches (Tomashivsjka, 2018).

The model of formation of future music teachers' professional qualities (developed and implemented in the educational process of pedagogical college) is a sign system, with the help of it we can reproduce the technology of didactic process as the subject of our research, its system, statistics, dynamics and also to predict its results.

The functioning of our dynamic system built on the basis of an integrated activity learning model will be effective and productive while observing certain conditions and the solution of urgent tasks. Special attention should be paid to: ensuring the solidarity and its interconnection with other educational and socio-cultural systems based on observance of the principles of continuity, interaction, integration and differentiation; the deliberate action on a future teacher personality: intellectual, emotional-volitional, spiritual, efficient-practical; creating a favorable social atmosphere in an educational institution and supporting the personality of a future teacher that causes the student to active educational activities; stimulating the student's needs for self-improvement, self-education, self-actualization, creativity; the modernization of learning and teaching base, informative-methodological support for the professional training of future teachers, the implementation of creative methods, modern advanced teaching and development systems.

Conclusions.

Pedagogical modeling was considered by us as an important means of scientific research of regularities and conditions for the construction of a clear system of educational process, the development of the program and technology of pedagogical activity, the defining of specific pedagogical actions.

The modeling of the pedagogical system for the formation of future music teachers' professional qualities included the stages: the study and analysis of the actual state of the pedagogical process, the distinguishing of its essential features; the formulation of specific aims and purposes for improving the educational process; defining its basic parameters, correlations, interconnections and interdependencies in the management of pedagogical process; the construction of a structural-functional model for students' professional qualities formation and testing its optimality.

The developed model (as an active pedagogical system) determined the program of task-oriented pedagogical process for professional qualities formation, specific pedagogical actions of the teacher and students, the methods and techniques of methodological framework for intellectual and professional development of future music teachers.

The pedagogical model of formation of future teachers' professional qualities is a complex, variable dynamic system of pedagogical process organization. This system is based on the two-way interaction of a teacher and students that includes content, forms, means, methodical techniques and technologies for solving educational problems and feedback guarantee. This is an open pedagogical system that requires constant improvement, updating and taking into account the complexity and variability of pedagogical phenomena, as well as pedagogical regularities and tendencies.

References.

Aleksjuk A. M. (1998) Pedaghoghika vyshhoji shkoly Ukrajiny. Istorija. Teorija. Pidruchnyk. K. Lybidj [in Ukrainian].

Zhornjak B. Je., Tomashivsjka M. M. (2018) Pedaghoghichni zasady ta pryncypy formuvannja profesijnoji kompetentnosti majbutnikh uchyteliv muzyky zasobamy ukrajinsjkogho narodnogho muzychnogho. Aktualjni pytannja ghumanitarnykh nauk: Mizhvuzivsjkyj zbirnyk naukovykh pracj molodykh vchenykh Droghobycjkogho derzhavnogho pedaghoghichnogho universytetu imeni Ivana Franka, 21(1) [in Ukrainian].

Lughovyj V. I. (2011) Ocvita, navchannja, informacija, kompetentnictj: kanonizacija ponjatj (teoretyko-metodologhichnyj dyckurc). *Ictoryko-pedaghoghichni cytuaciji: naukovyj chacopyc,* 5, 11–16 [in Ukrainian].

Markova A. K. (1990) Formirovanie motivatsii ucheniya. Moskva [in Russia].

Mocenko N. (2014) Muzychno-vykonavcjka kompetentnictj v kontekcti zavdanj cuchacnoji myctecjkoji ocvity. *Problemy pidghotovky cuchacnogho vchytelja,* 10 (3). 173–178 [in Ukrainian].

Olekcjuk O. M. (2012) Kompetentnicno orijentovanyj ocvitnij proctir jak ocnova modernizaciji vyshhoji myctecjkoji ocvity. *Cuchacni ctrateghiji univercytetcjkoji ocvity: jakicnyj vymir: mater. Mizhnar. nauk*, 494–501[in Ukrainian].

Ryabov L. (1997) O sistemnyih osnovah podgotovki spetsialistov. Alma mater [in Russia].

Cirmbard C. R. (2007) Metodicheckie rekomendatsii po razrabotke modeley vyipucknikov i proektirovanie uchebnyih planov v vyicshih uchebnyih zavedeniyah Kirgizckoy Recpubliki na ocnove kompetentnoctnogo podhoda. Bishkek. [in Kyrgystan].

Tomashivsjka M. M.(2018) Realizacija kompetentnisnogho pidkhodu v systemi profesijnoji osvity pedaghogha. *Materialy IV Mizhnarodnoji naukovo-praktychnoji konferenciji* (pp. 20-23). Lucjk [in Ukrainian].

Tomashivsjka M. M. (2018) Osoblyvosti orghanizaciji ta zmist roboty z formuvannja profesijnoji kompetentnosti uchytelja muzyky. *Materialy mizhnarodnoji naukovo-praktychnoji konferenciji* (pp. 40-45). Kharkiv [in Poland].

Chapter 2. PHILOSOPHY, JOURNALISM AND LAW

Iryna Gukalova
Doctor of Geographical Sciences, Leading Researcher,
Institute of Geography of National Academy of Sciences,
Kyiv, Ukraine
orcid.org/0000-0002-4664-4480

REGIONAL VARIATION IN QUALITY OF LIFE IN UKRAINE IN THE CONTEXT OF THE IMPLEMENTING THE 2030 SUSTAINABLE DEVELOPMENT GOALS

Abstract. *The article notes the relevance of building a system for assessment the quality of life of the population at the regional level in the context of the implementation of the Sustainable Development Goals 2030, the reform of decentralization and the formation of new principles of regional governance. The principles of construction are disclosed and the author's model of geographical analysis of the characteristics of the quality of life of the population in Ukraine is presented. It has been established that the quality of life of the population "fixes" the ability of the geographical environment to "convert" the current and historically established living conditions in a certain territory into the characteristics of the population through a certain way of life of both individuals and social groups and strata. The results of assessing the quality of life of the population in the regions of Ukraine according to the data of 2015 are stated. Geographical typification of the regions of Ukraine according to the peculiarities of the quality of life of the population has been carried out, 8 types of regions have been identified and characterized. A number of issues dedicated to one of the most important trends in demographic development - the aging of the population, as well as the inclusive development of society and the policy of adaptation to the conditions of aging of the population in Ukraine was highlighted. A number of recommendations and requirements have been formulated for improving the state policy of managing the quality of life of the population. It is determined that inclusiveness in approaches to assessing the effectiveness of regional policies is an important component of ensuring sustainable development and quality of life.*

JEL Classification: R58

Introduction.

Quite a while, within the framework of the standard ideas about the regional nature of the disbalances of the development of territories in Ukraine, a regional leveling policy was implemented, which was intended to bring together the basic indicators of the socio-economic development of regional communities. This problem was partially solved, but this policy did not remove and could not completely remove the "potential difference" in the structural components of the quality of life of the population in the regions. At the beginning of the XXI century, new approaches are coming to replace the vertically constructed alignment tools, focused on creating conditions for spatial development by strengthening the competitiveness of cities and regions, their ability to generate resources to solve the overwhelming number of local problems. Quite a while, within the framework of the standard ideas about the regional nature of the disbalances of the development of territories in Ukraine, a regional leveling policy was implemented, which was intended to bring together the basic indicators of the socio-economic development of regional communities.

This problem was partially solved, but this policy did not remove and could not completely remove the “potential difference” in the structural components of the quality of life of the population in the regions. At the beginning of the XXI century, new approaches are coming to replace the vertically constructed alignment tools, focused on creating conditions for spatial development by strengthening the competitiveness of cities and regions, their ability to generate resources to solve the overwhelming number of local problems.

The main document that determines the vector of Ukraine's movement towards sustainable development is the Ukraine -2020 Strategy of Modern Development approved in January 2015. This document provided the implementation of 62 reforms and state development programs, among which ten priority ones were identified. In September 2015 193 UN member states at the Summit on Sustainable Development in New York approved 17 Sustainable Development Goals 2030, which were later presented in an adapted form by our state (Sustainable Development Goals: Ukraine. National report, 2017). Most of the goals and objectives of these two important documents are already partly reflected in the existing government documents. However, there are huge problems associated with the unresolved problems of strategic planning in Ukraine, the lack of cross-cutting prioritization of goals and objectives, understanding and taking into account the interrelationships between them, the lack of consistency in analyzing the effectiveness of public policy in various fields, including state regional policy.

Since sustainable development is a fundamental goal of the European Union, the ratification and implementation of the Association Agreement between Ukraine and the European Union practically means for Ukraine the path to sustainable development in the EU format. But an analysis of the compliance of the Sustainable Development Goals with the Association Agreement between Ukraine and the EU shows that, for example, for goal 11 - sustainable development of cities and communities - the link exists only for two of the six tasks related to technological safety and environmental issues (Chapter 6 “Environment ”, articles 360-366 of the Agreement). But the integrated (sustainable) development of settlements, housing, jobs and the economy are not mentioned in the document at all (Analysis of State Strategic Documents of Ukraine to take into account Adapted for Ukraine the 2030 Sustainable Development Goals: Analytical Report, 2017). At the same time, Chapter 21 of the Agreement is devoted to issues of cooperation in the field of social policy, and Article 420 discloses the objectives of such cooperation, among which the first is to improve the quality of life (Association Agreement between Ukraine, 2014).

This is all the more relevant in view of the fact that in recent years, positive changes have occurred in the state regional policy in Ukraine. Since 2014, the process of decentralization of power began - the reform of the system of local self-government. A new for Ukraine practice of partnership between neighboring communities, which began to conclude agreements of cooperation and association, has emerged and is developing. As of March 10, 2019 4010 communities merged into 884 united territorial communities, including 24 cities of regional importance.

The decentralization process has reached 9 million people, and 40% of the territory of Ukraine is covered by new united communities so far. New regulatory documents set the basis for fiscal and tax policy, with the result that local budget revenues increased significantly (Zubko, 2019). Having received powers and resources, quite a few communities can now implement investment infrastructure and environmental projects. The importance of decentralization reform is extremely important: on the one hand, it is directly aimed at improving the quality of life of the population, and this is its priority goal, on the other hand, it will contribute to the "binding" of the state, the formation of regional and national identity of the population. The reform of the decentralization of power in Ukraine necessitated the need to be specified at the regional and municipal level by achieving the Sustainable Development Goals 2030 through the lens of improving the quality of life of the population. Note that the category of "quality of life" as a strategic goal appears more at the level of regional program documents.

1. Quality of Life of the Population: a Model of Estimation

Politics is a process that begins with an awareness of the needs and interests of the population and ends with their satisfaction, gaining benefits or benefits by citizens from the implementation of the best political plans. The quality of life of the population is in the focus of attention, because it is a complex interaction of external to people conditions of life and subjective factors that characterize an individual or a social group and are expressed in its economic, social and demographic behavior.

For Ukraine, which is located at the crossroads of civilizational worlds, migration flows - present and future and has (so far) enormous human potential - the question of understanding and assessing the quality of life is super-actual. Why do Ukrainian applicants go to Poland in recent years, and Polish specialists have even been to the UK before: did the latter push the British to speak in favor of Brexit and will not facilitate the first closure of Ukrainian demographic holes in other countries and an increase in demographic problems in Ukraine? Finding answers in any case will make us turn to the evaluations of the qualitative aspects of life in the country. Planning and monitoring the development of Ukraine, its regions and cities in the direction of ensuring a decent quality of life for the population - the main guideline of social development and an indicator of its balance - remains a priority issue of domestic regional policy. Quality of life reflects the degree of priority of human development in civilizational development, as well as human self-consciousness, self-identity and ecological state. Many definitions emphasize the multidimensionality of this category, emphasizing its objective and subjective aspects. Even more seriously is that this category is geographically. It is through to the peculiarities of space and time, is influenced by trends in the development of territories, that is, it is characterized by a certain dynamics.

It is important to understand that the category "quality of life of the population" describes a certain level of similarity between the characteristics of the environment and the characteristics of society; it is formed and maintained by relationships and connections that form a reality that is not the same in different regions.

The quality of life of the population “fixes” the ability of a certain geographical environment (economic, social, political, cultural) to “convert” the current and historically established living conditions in a certain territory into the characteristics of the population itself through a certain way of life. There is a direct sense to abstract from the trivial understanding of the quality of life as the degree of satisfaction of needs and focus on knowing in what conditions and how this happens. Besides, needs are an internal reason for the functioning of society, and the interests of people are the driving force, the form of expression and the realization of their own needs. Interests are the intermediary between the person having these needs and the world of external circumstances that allow these needs to be met. The more freedom or opportunities a person or a certain social group has in the realization of their interests, the better is its life.

Territorial differentiation of the quality of life of the population, if we understand it as spatial differences in living conditions and specific ways of their “conversion” into characteristics of the state of the population, mainly occurs in countries with contradictions in the trends of demographic situation and economic development. The structural dynamics of the quality of life of the population (non-simultaneous and uneven change of various components of life) in the regions of Ukraine is the result of a complex set of relationships between the population and the environment in which they live. At the same time, geographical proximity stimulates cognitive interaction, and the nature of historical development, current market trends and non-market “rules of the game” leave their mark on the picture of the quality of life of the population.

As to to the formalization of the category the "quality of life", the problems begin at the stage of information-gathering. What can be a criterion of the quality of life of the population at different territorial levels and what characteristics are able to describe it? The system of indicators can not duplicate those indicators that traditionally characterize the socio-economic situation of the territories. It is necessary to select those of them that best describe the social (environmental, socio-cultural) result of the development of a particular sphere, each separately. Based on the complexity of the category and the diversity of the estimated indicators, it can be argued that the arsenal of methods for their processing should be broad - from mathematical and statistical, sociological to geographical methods, including GIS -technology and all methods of modern mapping.

We have developed a model of spatial analysis of the quality of life in Ukraine (Fig. 1). It is aimed at reflecting the ability of regional geosystems to provide human life, activity, and general development in accordance with its internal potential, adaptation to external influences, and in the context of rapid innovative changes and transformation of social relations. Four main areas of analysis of the quality of life - economic, social, environmental, cultural and spiritual are reflected in the proposed model. In turn, they include several groups of indicators characterizing the level of regional economic development, social activities, social and environmental performance of development, and so on.

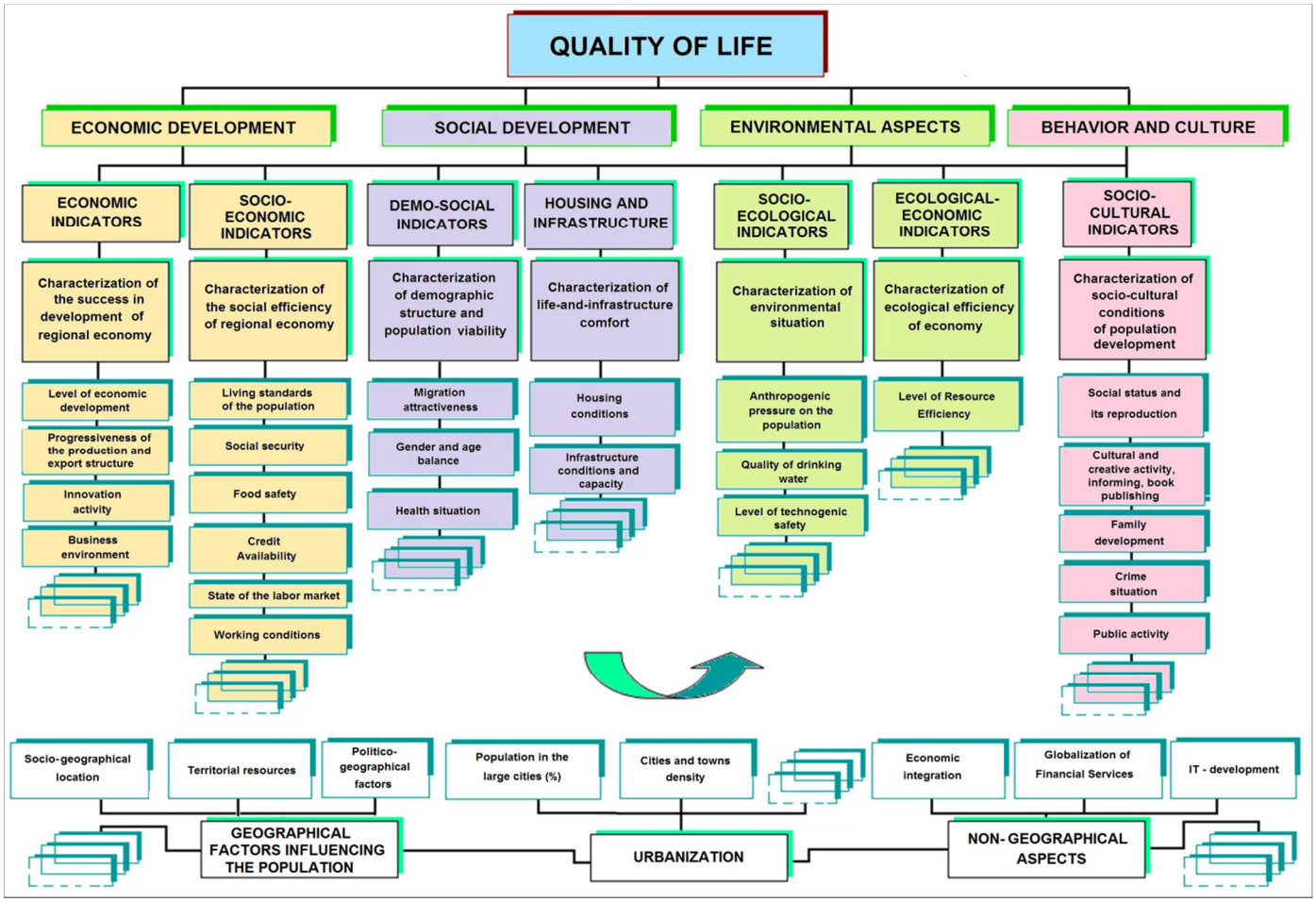


Fig.1. Model for Assessing the Quality of Life in the Regions of Ukraine

Source: Gukalova, 2017.

Since indicators should indicate an adaptation mechanism that regulates the relationship of society with the natural, economic and social environment, data on the natural reproduction of the population and its living and working conditions, as well as data on migration and indicators of socio-cultural development are very important.

2. Regional Features of the Quality of Life of the Population in Ukraine

For ten years in a row, we have carried out studies of the quality of life at the regional level: a corresponding assessment methodology has been developed with more than 120 baseline indicators (Gukalova, 2009). Its main principle is in rationing the initial indicators from 0 to 1 in accordance with the minimum and maximum (for destimulators, on the contrary) and their phased construction by arithmetic mean into intermediate, and those, in turn, in 7 component indices are components of the quality of life of the population. Since Kyiv's indicators in their values often exceed in one direction or another their variation by region (without Kyiv), the "distance" of its values, when converted into indices, is calculated relative to the variable difference of indicators (max - min) by region Of Ukraine. This gives grounds for a more differentiated presentation of interregional cancellations in certain characteristics. As a result, the higher each of the 7 indices by value, the better the situation.

Visually, the larger the area of the radar chart (the so-called “profile” of the quality of life of the population), and the more regular the outline of it is, the better the quality of life of the population of the region is balanced. The calculation of the integral index of the quality of life is not provided by the methodology, but only the calculation of the 7 component indexes. However, the analysis of such so-called “profiles” of the quality of life of the population gives grounds, using cluster analysis, to identify types of territories similar in terms of the “structure” of the quality of life of the population, to see certain deficiencies and to develop measures to overcome them. The selected types are not and cannot be permanent, that's why every 5 years a new typing is carried out on the basis of cluster analysis of data for the corresponding year. Particularly, in 2015 we allocated 8 types of regions (Fig. 1), in 2011 - 6, in 2005 - 7 of them. Some regions are very stable in development trends (Chernihiv, Kirovohrad, Kherson regions), some actively “migrate” from one type to another. But the types themselves slightly change their “profiles”. In 2015, 8 types of regions were identified, on the basis of which it is possible to formulate regional policy measures to improve the quality of life of the population and sustainable development.

Type 1. Capital with a high level of social and cultural development of the population. The most characteristic feature of the type is several times the highest index of favorable social and cultural development of the population, it is clear because of the concentration in the capital of education, science, publishing houses, public organizations and their representatives, and so on. At the same time, for example, the indicators of criminality in the capital are far from being the best; indicators of the marital situation are also low, which indicates the prevalence of deviant behavior and growing social tensions. The highest indexes by regional value are the majority of other indices, excluding the social orientation index of the economy and the environmental index of the favorable situation, which indicates a fall in the standard of living of metropolitan residents, an increase in anthropogenic pressure and a level of natural and man-made hazards. There is also a growing sex-age imbalance of the population, which is a result of both natural aging and an increase in the intensity of migration to the capital.

Type 2. Industrial demographically depressed type of regions with infrastructure deficit and low favorable social and cultural development. It is formed by the industrial regions of Ukraine - Donetsk, Luhansk, Zaporizhia. Despite the fact that according to the index of economic development, its social orientation, infrastructural indicators, Zaporizhia region is significantly ahead of Donetsk and Luhansk, its other indexes brought it closer to them. This type of regions is characterized by problems in demo-social development, in particular, large-scale migration outflow of the population and its extremely unbalanced age and sex structure. The economy in this type of region is very resource-intensive, and the unfavorable socio-cultural development is reflected through low rates of cultural and social activity of the population. The indicators of the state of infrastructure support, which have been aggravated by the recent destruction of parts of the territory of the Donetsk and Luhansk regions, are unsatisfactory.

Type 3. Western regions with a favorable environmental, ecological-resource and demographic situation. This type includes only four western regions - Transcarpathian, Chernivtsi, Volyn and Rivne, which, unlike 2005, when united into a type, are geographically more separated. Having quite moderate indexes of economic development and its social efficiency, this type is marked by a favorable demo-social environment, in particular a slow population decline, better public health indicators, and gender and age harmony. Due to the development of non-resource-intensive industries, this type is characterized by a favorable environmental situation. According to the results of the analysis of the socio-cultural characteristics of development and the conditions of reproduction, this type shows positive features in the formation of the marriage situation and the general criminal activity.

Type 4. "Near-to-the capital" economically and demographically stagnating regions. Zhytomyr, Cherkasy, Chernihiv regions, which form this type, are characterized by a low index of economic development, but relatively higher than its social orientation, low resource intensity of production and public utilities. The regions belong to ecologically safe areas of Ukraine. However, one of the worst in Ukraine is their demographic situation, which is deteriorating every year due to the outflow of the population to the metropolitan region.

Type 5. Central Black Sea littoral regions with socio-cultural and demographic deficits. Kirovohrad, Mykolaiv, Kherson regions in 2015 formed a relatively prosperous for the development of the economy and its social orientation type. This is not so much thanks to the production volumes, but to the relatively progressive structure of the economy, innovative activity and developed entrepreneurship, satisfactory working conditions and a good situation in the labor market as a whole. But this type of regions consistently demonstrates negative demographic trends and the deterioration of public health, low indices of the socio-educational status of the population and the conditions of its reproduction, cultural activity and high criminality rates, which indicates a high social risk.

Type 6. Economically developed regions with a socially oriented economy, ecologically-resource-based and socio-culturally favorable. In 2015, Kharkiv, Odessa, Lviv, Ternopil regions formed a very positive type of region in its profile of quality of life, which united territories with an average power level of the economy, but generally with a progressive structure, developed business environment, above the average social orientation of the economy, which is due, in particular, to the relatively favorable situation in the labor market. Despite the low level of resource intensity of the economy of the regions of this type, a rather tense ecological situation is observed here, which is primarily associated with the natural and man-made hazard.

Type 7. Demographically progressive and infrastructure-friendly type of regions. This type united geographically remote Ivano-Frankivsk and Kyiv regions, which are characterized by an insufficiently progressive economic structure, but a high standard of living of the population, low food security, but a high level of housing provision and improvement, above the average level of natural and man-made safety.

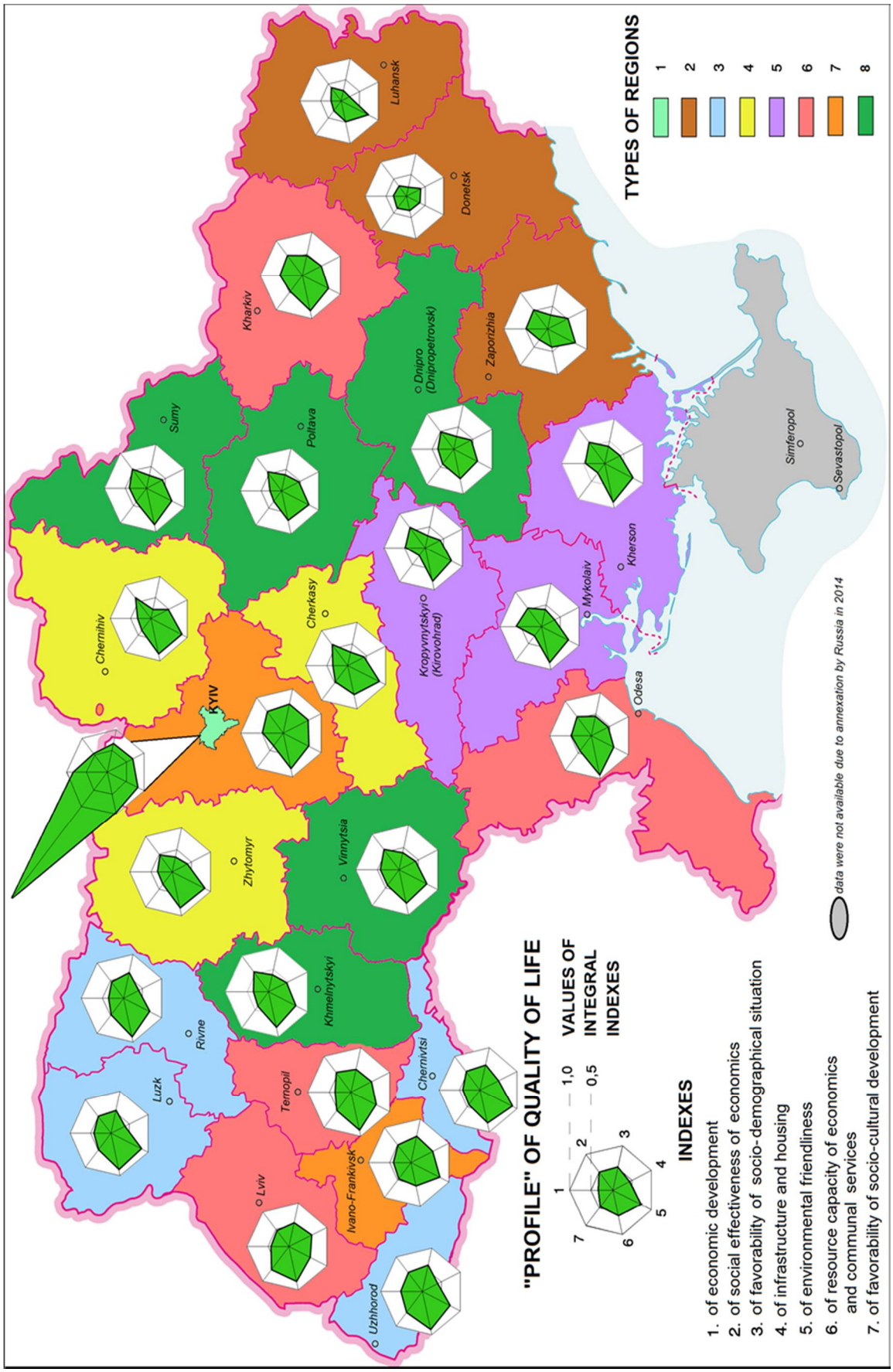


Fig.2. Types of Ukrainian Regions in Terms of the Quality of Life of the Population, 2015

Type 8. Infrastructural and ecology-resource-based favorable type with growing economic and demographic deficits. Khmelnytskyi, Vinnytsia, Sumy, Dnipropetrovsk, Poltava regions, which are united into the latter type, are very different in structure of the economy, by their contribution to the country's GDP. However, they all have a developed business environment and are characterized by higher than average infrastructure development indexes. Indicators of favorable social and cultural development are decreasing annually, although they are close to the average in Ukraine. The demographic situation is deteriorating thanks to the significant outflow of the population and its unbalanced structure.

So, each type of regions is specific, as it represents a unique synthesis of various features and character of the development of society in quite particular conditions. These conditions project on themselves the processes that occur in the country as a whole, and on the other hand, they modify them being based on the specifics of the life of the population and the economy in a particular territory.

It is possible to talk about the balance or imbalance of the components of the quality of life in the sense that their close relationship creates a certain balance, a certain ratio of components - different dimensions of life. In connection with the mentioned above, the socio-economic policy of improving the quality of life of the population in Ukraine should be adapted for eight types of regions. At the same time, none of the regions of Ukraine, including relatively prosperous Kiev, can not get rid of signs of social or socio-economic "disease". The “treatment” of these “diseases” in different types of regions is of a fundamentally different nature with the awareness of a single continuous priority - the value of people's lives and their normal well-being.

As it can be seen, a characteristic feature of the most selected types of regions is the imbalance in the development of individual components of the life quality. Radar Chart quite brightly emphasize this tendency -the most of the regions of Ukraine, including “successful” Kyiv has completely asymmetrical deviations of private indexes in one direction or another. The traditional features of the quality of life in Ukraine in the direction of "west-east" are formed in a combination of ecological, geographical and socio-economic factors, although the variability in the profiles of the quality of life is the result of the interaction of all seven component indexes. However, regions with identical or similar socio-economic feathers are also characterized by similar feathers of demo-social development, trends in the formation of the ecological situation. However, for the years of 2005-2015 the most negative trends in all regions are recorded by the index of favorableness of the demo-social situation, the most positive - at the level of resource intensity of the economy. Which means that Ukraine’s economy now consumes less resources, but so far it doesn’t affect in any way the demographic and social well-being of its people. Neither the economic, nor the infrastructure, nor the sociocultural leap forward has yet been made, although there are fragmentary shifts in certain sectors.

The quality of life of the population is a category that emphasizes the value-semantic and semantic aspects of human life and society, analyzes the human, social dimension of the economy, consumption, anthropogenic pressure on nature and cultural development, that is, generally characterizes and integrates various parameters of human life, but within the framework set by the current level of development of the country as a whole. Each region of Ukraine, having its own unique character and "profile" of quality of life in the context of recent social, economic, and political transformations, becomes very vulnerable, and on the other - the most adaptable geosystem, which, nevertheless, requires effective regional management. The objective determinants of quality of life management are the existing state system of distribution and redistribution and "the state-society" relationship, strengths and weaknesses in the system for ensuring the quality of life of the population, technological complexities of the socio-economic system, its cyclical dynamics and, of course, environmental condition.

3. Population Aging and Inclusive Development as Guidelines for Sustainable Development Policy Making

One of the main objectives of sustainable development policy is the creation of the so-called inclusive habitat. Inclusion is the principle of providing equal opportunities for access to space and resources (services) of all citizens, social groups, strata and categories of the population. The policy of inclusive development provides for the elimination of discrimination in the integration of low-income, refugees, disabled people and other groups with special needs into society. Considering this problem more broadly, it is necessary to talk about large age and gender groups, each of which objectively puts forward demands both for the space and the conditions of its life activity, and for regional planning and management.

The inhabitants of the country, region, city, have many roles. Every person during its life exists as a child, father (mother), student, employee, retired person. In each of these roles, a person has his own "expectations" of the territory where it lives, and a sustainable development strategy must proceed from the needs of various social groups. As is known, the attitude of society to the quality of life of the population, as a starting point in assessing the level of socio-economic development of the territory, is determined by the attitude to life, above all, of older people. With a sufficiently high level of aging of the population at the present stage, a clear awareness of the need to fight for healthy longevity, preserving the working capacity and activity of people until the end of their lives is being established.

In the XXI century Ukraine, like other countries, faced the aging of the population as a challenge to balanced development. Today, aging affects all aspects of the activities and spheres of the life of the state and society: health care, education, insurance, the level and structure of consumption, social security and the like. Aging has a huge amount of economic, political and social consequences, this process leads both to the quality of life of the population, and measures to improve it. It is obvious that as a result of the aging of the population, the losses of the demographic and, in particular, the labor potential of the country increase.

Despite the fact that the aging of the population in Ukraine began later than in many other European countries, and according to the standards of developed countries, Ukraine remains relatively "young", the situation with the aging of its population is very serious. It is associated with low life expectancy, high mortality and low birth rate, as well as the outflow of a significant part of the working population outside the country. By the beginning of 2030, every fourth resident of Ukraine will be at the age of 60 and older, and more than two out of every eleven will be at the age of 65 [5].

Not only rural areas are aging, the large cities of Ukraine also "grow old" every year, and the rate of the process is higher than this rate for the urban population as a whole (Fig. 3). To 2009-2014 the average age of the population of large cities of Ukraine has increased from 39 to 40.57 years, that is, more than a year and a half. At the same time, the total demographic load on the working-age population in the large cities of Ukraine is less than the national average (with 45 large cities, only four are characterized by a larger load than those in Ukraine: Nykopol, Mariupol, Berdyansk and Sevastopol). But if in large cities in the west of the country the "advantage" of this load is on the side of children, in the eastern and southern ones it is on the side of older age, which indicates the absence of replacement of generations and a decrease in the influx of young people from rural areas.

The average age of residents of large cities is also different - the indicators vary from 37.4 in Rivne to 43.4 in Berdyansk. The difference is 6 years. There are no young cities (with an average age of less than 35 years) in Ukraine. In the group of relatively young (up to 38 years old) there are western cities of Ukraine. The geographical trend of age growing is also a vector - from west to east (Fig. 3). This is a confirmation of the idea that the environmental and social adverse accelerates the aging of people and leads to a decrease their life expectancy.

The relatively low retirement age in Ukraine gave reason to actively discuss the issue of raising it, while Ukrainian retiree (in particular, men) live much less after retirement than pensioners in Western European countries. Grandparents play a big role in raising up their grandchildren - this is traditional for Ukrainian families, and raising the retirement age can provoke active and young married couples to refuse to have children, or the number that they could have with the active help of their parents. On the other hand, there is a reverse process: children often help their parents financially and postpone the birth of their own children because they cannot help their parents if necessary.

Aging leads to changes in lifestyle and value orientations. Its direct result is the discrepancy between the "aging" age structure and the existing socio-economic conditions that have developed for the younger population. The criticality of accelerated aging is aggravated by the existence of such problems as low participation of the population in the labor market and social insurance, large-scale informal employment, relatively low wages, and underdevelopment of private pension savings programs.

The negative impact of a high degree of aging of the population in Ukraine and the deformability of its age composition is associated with the wave-like dynamics of the total population and its age groups, and further slow down of the formation of demographic prerequisites for sustainable socio-economic development.

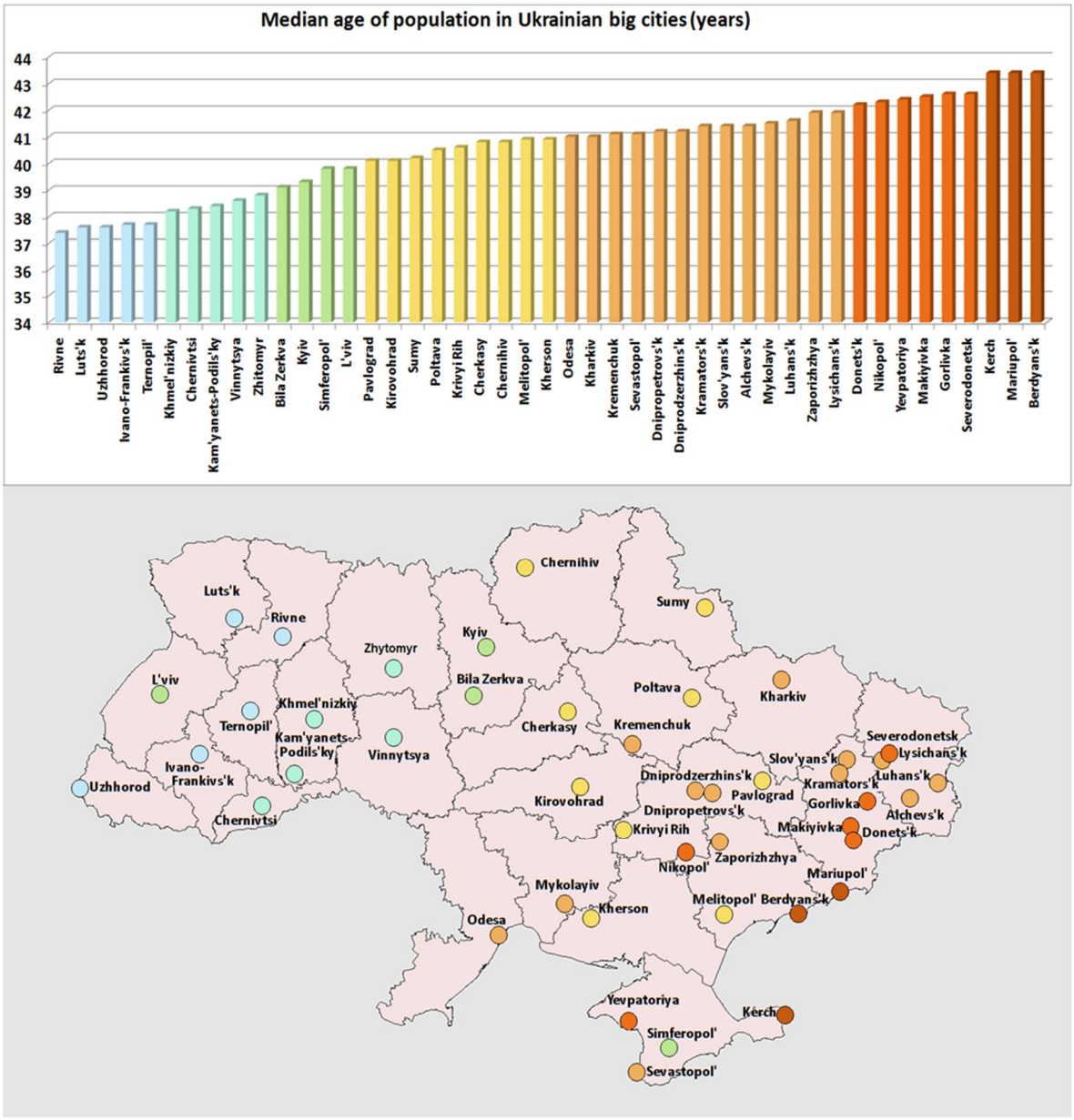


Fig.3. The Average Age of the Population in Large Cities of Ukraine, 2015

The aging of labor force increases the trend of feminization in the labor market, since women in Ukraine live much longer than men and constitute the overwhelming majority of the elderly. Gender imbalances should also be researched and taken into account in regional social policy and in the labor market, which in Ukraine is rather rigid and not adapted to the needs of the elderly. When it comes not only about the need to take into account the age specificity of creating an appropriate working environment, but above all about the need to create a positive image of older workers and introduce methods of age and gender-oriented management in all spheres of life, including in education, which should be focused on obtaining knowledge and skills not only at a young age, but also throughout life.

The population ageing also brings new challenges to the functioning and development of housing and transport infrastructure. Now the equipment of the housing stock in Ukraine in most cases does not meet the needs of the elderly. In most cases, older people live predominantly in the old housing stock built in the 1960s – 1970s, equipped with old elevators, ramps, railings, or not equipped at all.

The level of accomplishment of house territories, the so-called public space does not meet the needs of older people. There are quite often cases when ambulances cannot drive close to the houses. Paved roads, the presence of pedestrian areas, crossings, and the like, require major repairs. There is also the problem of lighting, if in large cities of Ukraine it is solved, then in small ones - sufficient lighting is the exception rather than the rule. Therefore, expanding the range of opportunities should be considered as an imperative of sustainable development and improvement of the quality of life of the population of Ukraine and its regions.

Conclusions.

The implementation of the sustainable development Goals is closely connected to the monitoring and formation of the state mechanism for managing the quality of life of the population. It comes to the method of organization and functioning of public authorities, local government and civil society, aimed at improving at least two important parameters of development: life expectancy of the population and subjective well-being by regulating numerous internal and external factors of influence.

To our point of view, the model for estimating the quality of life of the population should cover at least 7 structural components expressed through appropriate indexes, the ratio between which allows conclusions to be drawn about the balance or imbalance in the development of a particular region. At the same time, the system of initial indicators is open for clarification.

The idea of humanizing space and creating comfort for all groups of people remains relevant. Today, Ukraine has not formed a modern state policy that would express the attitude towards the elderly as a large socio-demographic group of the population, which affects the formation of the quality of life of the population as a whole. The need for rapid economic growth in the conditions of declining population needs to expand the boundaries of economic activity and create opportunities for the largest possible part of the population to participate in economic activities. An inclusive outlook and inclusiveness in approaches to estimating the effectiveness of regional policies should now become an integral part of ensuring sustainable development and improving the quality of life of all citizens.

A sustainable development policy should be directed not so much on meeting the essential needs of older people, it should be reoriented towards their empowerment, as the principles of “active ageing” require. In fact, this is still a new task for Ukraine.

In this connection, there are many tasks for the state regional policy and for the social policy of integrating the elderly population into active life. For this purpose, it is necessary to focus not only on the development of appropriate infrastructure, roads, but also on the development of institutional infrastructure for the elderly, overcoming the negative perception of living in lodging houses / boarding houses for the elderly, which is normal in developed countries and the like. The town-planning policy should also be significantly changed and provided for the transition from the traditional monocentric model of cities based on daily “tides” and “ebbs” of the working population (work-home) to a polycentric model focused on the development of other forms of employment and communication, free choice of cities labor (including remote work), accommodation, recreation and rest, and the like.

References.

Analysis of state strategic documents of Ukraine to take into account adapted for Ukraine the 2030 Sustainable Development Goals: Analytical Report (2017). Kyiv: Institute of Social and Economic Research.

Association Agreement between Ukraine, on the one hand, and the European Union, the European Atomic Energy Community and their Member States, on the other hand (2014). *Database "Legislation of Ukraine"*. The Verkhovna Rada of Ukraine. URL: https://zakon.rada.gov.ua/go/984_011

Gukalova I. (2017) Experience in monitoring of the quality of life in Ukrainian Regions. In: *Proceedings of the International Scientific Conference "International Trends in Science and Technology"* (October 17, 2017, Warsaw, Poland), 2, 8-13.

Gukalova I. V. (2009) Quality of life of the population in Ukraine: socio-geographical conceptualization. Kyiv: Printing house of the Ministry of Internal Affairs of Ukraine, 347 p.

Krentovska O. (2010) Prevention of the negative impact of the aging of the Ukrainian population on the financial and economic parameters of society. *Bulletin of National Academy of Public Administration,* 4, 199 - 207.

Sustainable Development Goals: Ukraine. National report 2017 (2017). Kyiv, Ministry of Economic Development,

Zubko G. (2019). Decentralization is Ukraine’s Road to the European Union. Development Strategy. *Journal of the Ukrainian network of experts and practitioners on regional and local development REGION*, 8-11.

Mykola Mykolaichuk
Doctor of Science in Public Administration, Professor,
Odesa Regional Institute for Public Administration
National Academy for Public Administration Under the President of Ukraine,
Odesa, Ukraine
orcid.org/0000-0001-7837-0229
Ivan Rozputenko
Doctor of Science in Public Administration, Professor,
State Agrarian and Engineering University in Podilya
Kamianets-Podilskyi, Ukraine
orcid.org/0000-0003-1631-4365
Andrii Maiev
PhD in Public Administration,
Odesa Regional Institute for Public Administration,
National Academy for Public Administration Under the President of Ukraine,
Odesa, Ukraine
orcid.org/0000-0001-9333-2933

CONCEPTUAL BASES OF SUSTAINABLE DEVELOPMENT OF THE COUNTRY (REGION) IN THE CONDITIONS OF GLOBALISATION

Abstract. *The world experience and modern approaches to the formation of mechanisms of public administration for the development of regions based on sustainable development were analysed. The research results are the theoretical substantiation and practical application of new approaches to the evaluation of efficiency and the identification of problems of regional development. In particular, the methods of determining the sustainable development of the territory, which allows to assess the differences in the local development, to identify the main problems and prospects for the development of specific components, to justify strategic goals, to formulate a plan of action for subsequent periods. The methodology is based on indicators published in official sources that allow them to be verified and used by the non-governmental organisations. The proposed evaluation approach is intended to identify an imbalance both in the development of a specific region and between regions within the country.*

JEL Classification: E27, F60, Q01, R11, R58

Introduction.

According to some scholars, the globalisation creates not only preconditions for the development of the economy of sovereign states, but also the threat to their security. Consequently, in the context of globalisation, in our opinion, the probability of transformation of weak states under the pressure of global competition into "hopeless" is increasing. So, in order to preserve sovereignty, countries need to prevent any excessive dependence (political, economic, military, cultural or other). It is therefore essential to use existing socio-economic resources and opportunities to reduce the negative impact of globalisation. This task can only be achieved by a robust competitive economy.

The concept of overcoming the crisis phenomena inherent in modern civilisation in the ecological, economic and social sphere was adopted by the organisation of the united nations in the '90s of the last century. This concept, known as "sustainable development," is a reconciliation between economic and social development of society and preservation of the environment. At the beginning of the new millennium, Johannesburg made conclusions about the achievements of limited progress in the last decade. One of the main objectives of sustainable development is to reduce the differences in the socio-economic development of different countries, the implementation of which is complicated by the fact that in underdeveloped countries, the population is growing at a much higher pace than gross domestic product (GDP). In this regard, one of the most difficult but significant problems is the achievement of development, provided that the consumption of natural resources is stabilised (and even reduced). Its solution is possible only on an innovative basis, because the "burden" on the natural environment will grow, both at the expense of fertility and due to increase in the life expectancy of the population.

In the new millennium Ukraine should also develop based on sustainable development, the concept of which involves shifting the emphasis on increasing production to protect the environment, preserving natural resources for future generations and ensuring a high standard of living for the population. To this end, the goals of the world community should be considered in creating acceptable conditions for the development of future generations of humanity. However, the proper financial support of social programs, the restoration of natural resources requires the economic development of countries. As a result of the contradiction between the main objectives of sustainable development, the need for redefining the place and means of public administration at different levels are increasing, and the mechanisms of influence on the priorities of human development are improved (United Nations Ukraine, 2019).

The process of formation of a regional policy that will allow the use of existing opportunities and overcome developmental problems requires assessing not only the existing achievements of the regions but also the prospects for their further development, which depend on the current potential.

Government regulation has a significant role in the formation of competitive market economies of most developed countries. For the rapid recovery and further development of the Ukrainian economy, the processes of transition to the sustainable development of each region should be intensified. Especially those regions that, by their territorial features, the availability of natural resources and population can be compared with some countries in the Europe. Ensuring sustainable development will need to overcome the contradictions between economic growth and the preservation of natural resources for future generations. Regions make a significant contribution to sustainable development. The state of pollution of the environment, the conservation of biological diversity, the comfort of living, the life expectancy of the citizens, and the level of its well-being depend on the management on a particular territory. So, the processes of regional development must be managed.

An important instrument of public regulation is a thorough evaluation system of achievements that will identify the weaknesses of each component of the socio-economic system and form effective mechanisms for motivating development.

Therefore, the actual task is to develop an economic development policy both for the country, as a whole, and for each region. This economic policy will allow to effectively use the potential of the territory, identify the weaknesses and create the preconditions for ensuring the competitiveness of the economy in the conditions of globalisation and sustainable development.

1. Global and regional aspects of sustainable development

One of the main problems of the new century, experts consider the search for a successful form of global governance that will ensure an increase in social organisation and manageability of the world community and provide synchronised, equitable development for all nations and countries. But to satisfy everyone can only unite the efforts of different peoples in ensuring the new quality of human development. To do this, Professor L. Turow finds it necessary to seize the experience of different countries to ensure "the productivity of labour in Switzerland, the standard of consumption of China, the social equalisation of Sweden, discipline of Japan" (Bilorus, Lukianenko, 2001, p.34). The positive experience of the most populated countries of China and India, emerging from world leaders and demonstrating the ability to address food problems on their own, allows us to focus not so much on demographic issues as economic, social and environmental.

Special attention of world organisations (UN, etc.) is devoted to global environmental problems, poverty eradication, illiteracy, life expectancy, human rights, and the transnational problem of the fight against drugs and terrorism.

The list of these problems confirms that the ecological, social and economic issues are global, and their solution must be carried out comprehensively, coordinating the interests of different subsystems. Therefore, some scientists emphasise the need to consider the world economy as a single global ecological and economic system (GEES). But the practical implementation of this idea is complicated by the obligation to revise the policies of international organisations. Moreover, this system does not adequately consider the social component (Tunytsia, 2006, p.82). Also, globalisation is accompanied by regionalisation, that is, the localisation of the activity of a particular activity within a separate territory, the circle of countries. Indeed, the efficiency of the use and restoration of natural resources is provided mainly at the regional level. In this case, the concept of the region is multifaceted and can determine the continent, the grouping of states, the state or its component.

There are two approaches to building a model for regionalisation of the world: geographical and integration. Each of them involves the following hierarchy: meta-regions, megaregions, macro-regions, mesoregions, microregions and regional local institutions.

Territorial formations on the meta-level are Europe, Asia, continents. The megaregions include specific components of meta-level, for example, Southern, Eastern,

Western, Central Europe. Macro-regions are large countries (France) or groupings of small but interconnected countries (the Baltic states). The federal objects or territorial formations of large countries belong to the mesoregion (in Ukraine, these are economic regions: Polissya, Donbas, and others). The authors attributed micro-regions to the components of industrial areas (Western Ukraine and others), and local regional formations – cities.

From the standpoint of the integration approach, which is based on the existence of stable economic ties, the meta-regions include the world economy or its constituents, megacities are the formation of the EU type, macro-regions are considered industrial complexes of countries, the mesoregions are territorial-production associations, microregions are considered micro-regions Unification, and to the local level belong combines, associations.

A common position is to increase the role of "spatial economic zones or regional states", which are sources of growth – Californian territory of Silicon Valley Bai, etc. (Hladij, 2006). But the balance of socio-economic development with rational nature can be achieved mainly by the economy as a whole. That is, it makes sense to talk about the need to consider the economy of the country as a socially oriented ecological and economic system (SOEES).

Natural resources are the wealth of a particular country, and the government itself is interested in balanced environmental use and socio-economic development and has levers of influence on each of the components of the general system.

It should be noted that the reflection of global issues is the problem of interaction of individual regions in ensuring sustainable development of the country. It is necessary to achieve a reduction of differences in the socio-economic development of regions, the negative impact of industrialised areas on the environment.

Table 1 shows the share of territory, the population of each region and their contributions to the overall economic achievements of Ukraine (calculated from Verner, 2018, Part I, pp. 15-18, 23-25).

Undoubtedly, for the city of Kyiv, which has the highest population density, the lack of rural areas and the corresponding structure of the economic complex significantly affect other indicators. Therefore, its comparison with the regions in identifying problems in managing regional development is inappropriate.

Socio-economic indicators of the Autonomous Republic of Crimea (ARC) and the city of Sevastopol are not given due to their absence as a result of the occupation.

Comparison of the above indicators for the oblasts proves that the regions of Ukraine are significantly different from the available resources, the efficiency of their use and economic achievements.

The proportion of area higher than the average 3,7%, except for ARC, with 15 regions (24) Vinnytsia, Dnipropetrovsk, Donetsk, Zhytomyr, Zaporizhzhya, Kyiv, Kirovohrad, Luhansk, Mykolaiv, Odesa, Poltava, Sumy, Kherson, and Chernihiv.

Table 1. Share of regions in national indicators in 2017, (%)

	Territory *	Population**	Gross regional product (in actual prices), 2015 year	Volume of sold industrial products (goods and services)	Agricultural products
Ukraine	100	100	100	100	100
Autonomous Republic of Crimea	4,3	…	…	…	…
Regions (Oblasts)					
Vinnytsya	4,4	3,7	3,0	2,8	8,4
Volyn	3,3	2,4	1,6	1,1	2,6
Dnipropetrovsk	5,3	7,6	10,8	16	6,0
Donetsk	4,4	10,0	5,8	9,8	2,9
Zhytomyr	4,9	2,9	1,9	1,6	3,7
Zakarpattya	2,1	3,0	1,5	0,9	1,6
Zaporizhzhya	4,5	4,1	4,5	7,1	3,9
Ivano-Frankivsk	2,3	3,2	2,3	1,7	2,3
Kyiv	4,7	4,1	5,2	4,5	6,1
Kirovohrad	4,1	2,3	1,9	1,2	4,7
Luhansk	4,4	5,2	1,2	1,7	1,9
Lviv	3,6	6,0	4,8	3,4	3,6
Mikolayiv	4,1	2,7	2,4	2,1	3,8
Odesa	5,5	5,6	5,0	2,7	4,7
Poltava	4,8	3,4	4,8	6,7	6,8
Rivne	3,3	2,7	1,8	1,4	2,6
Sumy	4,0	2,6	2,1	1,7	4,0
Ternopil	2,3	2,5	1,3	0,8	3,3
Kharkiv	5,2	6,3	6,3	7,1	6,1
Kherson	4,7	2,5	1,6	1,2	4,4
Khmelnytskiy	3,4	3,0	2,1	1,6	4,9
Cherkasy	3,5	2,9	2,6	2,7	5,9
Chernivtsi	1,3	2,1	0,9	0,4	1,7
Chernihiv	5,3	2,4	1,9	1,8	4,1
city of Kyiv	0,1	6,9	22,7	18,0	–
city of Sevastopol	0,2	…	…	…	…

** As of January 1, 2017, ** As of January 1, 2018*

However, only the Dnipropetrovs'k region, which creates 10,8% of the gross regional product (GRP), 16,0% of the sold industrial products, goods, and services, can be attributed to the undisputed leaders, because of the created production potential and economic result.

It is possible to consider well-balanced resources and results in the Donetsk region, where the share of the territory is 4,4% and the GRP – 5.8%; Lviv (3,6% and 4,8% respectively); Kharkiv (5.2% and 6.3% respectively) and Kyiv (4.7% and 5.2% respectively). Zero balance between the share of territory and the gross regional product are Zaporizhzhya, Ivano-Frankivsk and Poltava regions.

It is slightly worse in Odesa Oblast, with the most significant territory (5,5%), it provides only 5,0% of GRP. Zakarpattya, Cherkasy and Chernivtsi regions also have a smaller (up to -1,0%) contribution to the formation of the GRP than the share of the territory. The worst achievements in the using of natural potential (- 3,0% or more) are in four regions. There are Zhytomyr, Luhansk, Kherson, and Chernihiv oblasts.

In general, in Ukraine in 2017, only five oblasts contribute to the national gross regional product over the share of their territory. Their share in the GRP of the country is 32,9%, and together with the city of Kyiv, they provide 55,6% of the GRP of Ukraine.

Sixteen regions of Ukraine contribute to the gross regional product below the average (3,7%) – Vinnytsia, Volyn, Zhytomyr, Ivano-Frankivsk, Kirovohrad, Luhansk, Mykolaiv, Rivne, Sumy, Ternopil, Kherson, Khmelnytsky, Cherkasy, Chernivtsi, Chernihiv. Their total contribution is 30,1%, which is almost twice less than the share of the territory they occupy (57,4%). The consumption of natural resources by the population, the influence of the commercial complex of regions on pollution of the environment is also significantly different (see Table 2, calculated from Verner, 2018, Part I, pp. 270, 273, 275, 285).

Most water is consumed by industrialized regions with a large population, the city of Kyiv and the Kherson region. For this steppe land, water is life, and without irrigation agriculture, it is impossible to get high yields of crops.

However, irrigation and the cultivation of rice in areas flooded with water also have negative consequences - flooding of many settlements, pollution of rivers and seas, salinization of the soil. Three regions: Dnipropetrovsk, Donetsk, and Zaporizhzhya emit 70,0% of contaminated water. It is worth noting that the Kherson region consumes 13,8% of water and throws dirty only 0,1%.

Odesa (4,2%) and Lviv (6,6%) of the oblast are also dumping polluted water above the average. Somewhat does not reach the average level Sumy oblast (3,4%).

Most harmful emissions into the air performing Donetsk region (31,9%), Dnipropetrovsk region (27,1%), Ivano-Frankivsk region (6,4%), Zaporizhzhya region (5,4%), Luhansk region (5,1%) Their total contribution to air pollution is 75,9%.

From these emissions, first of all, the inhabitants of the respective regions suffer. On average for Ukraine, on one square kilometre, in 2016 accounted for 5,1 tons of harmful emissions into the air from stationary sources of pollution. However, in Kyiv they reach 41,0 tons; in the Donetsk region – 37,0 tons; Dnipropetrovsk region – 26,1t; Ivano-Frankivsk region – 14,1 tons; Zaporizhzhya region – 6,1 tons, Lugansk region – 5,8 tons. In other areas, "load" per unit area below the average. The cleanest air in the Volyn region, where emissions per square kilometre are only 0,2 t. Close indicators in Kherson (0,3 t), in Zhytomyr (0,3 t), and Chernivtsi regions (0,4 t) (calculated from Verner, 2018, Part I, pp. 15, 275). All the same areas: Zaporizhzhya (63,0%), Sumy (18,1%), Lugansk (7,1%) and Donetsk (6,0%) still have hazardous toxic waste in the land. Consequently, the most economically developed regions have the most polluted environment (Verner, 2018, Part I).

Table 2. Share of regions in national indicators in 2016, %

	Consumption of fresh water	Discharge of polluted recycled waters into surfaced water objects	Emissions of pollutants into the air from stationery pollution sources	Generation of waste of I-III classes of danger
Ukraine	100	100	100	100
Autonomous Republic of Crimea	…	…	…	…
Regions (Oblasts)				
Vinnytsya	1,3	0,0	3,9	0,1
Volyn	0,7	0,0	0,2	0,1
Dnipropetrovsk	14,7	35,0	27,1	8,3
Donetsk	12,9	25,8	31,9	23,5
Zhytomyr	0,9	0,4	0,3	0,1
Zakarpattya	0,4	0,6	0,2	0,2
Zaporizhzhya	15,1	9,2	5,4	2,6
Ivano-Frankivsk	1,0	0,1	6,4	0,5
Kyiv	9,3	0,7	3,2	4,1
Kirovohrad	0,7	0,1	0,4	1,0
Luhansk	1,0	2,7	5,1	1,1
Lviv	1,7	6,6	3,3	0,3
Mikolayiv	2,5	3,2	0,5	10,1
Odesa	3,4	4,2	0,9	1,3
Poltava	1,2	0,4	1,8	8,3
Rivne	1,2	0,7	0,3	0,1
Sumy	0,9	3,4	0,6	19,5
Ternopil	0,5	0,3	0,3	1,5
Kharkiv	3,9	1,4	3,3	9,9
Kherson	13,8	0,1	0,3	5,6
Khmelnytskiy	1,1	0,0	0,7	0,4
Cherkasy	2,0	1,0	1,7	0,1
Chernivtsi	0,7	0,3	0,1	0,0
Chernihiv	1,5	0,9	1,2	0,2
city of Kyiv	7.6	2,9	1,1	1,1
city of Sevastopol	…	…	…	…

The level of prosperity and livelihoods of the inhabitants of the regions illustrates the data presented in Table 3 (Verner, 2018, Part I, pp. 16, 66, 102, 191-194, 213). It is logical that in regions with low industrial potential the unemployment rate should be higher than the average in Ukraine. However, the fighting in the East of Ukraine made its adjustments and this link was average (r = 0,42). Thus, in 2017, the highest percentage of the unemployed concerning the economically active population aged 15-70 (above 16,0 %) was observed in the Luhansk region, where the volume of sold industrial goods (goods and services) per capita amounted to only 23,2% of the average in Ukraine. However, the unemployment rate is higher than the national average in the Poltava region (12,6 %), where the output per person, in turn, is higher than the average in Ukraine by 57,0% (Verner, 2018, Part I).

Table 3. Characteristics of the livelihood of the inhabitants

	Unemployed population aged 15-70 year old (by ILO methodology), %	Average monthly nominal wages of regular employees, UAH	Housing, m2 per person	Food value and content of nutrients in the foodstuffs consumed by households (average per day per person), kilocalories
Ukraine	9,3	5183	23,0	3011
Autonomous Republic of Crimea	…	…	…	…
Regions (Oblasts)				
Vinnytsya	9,7	4189	29,8	3345
Volyn	11,5	4047	23,0	3135
Dnipropetrovsk	7,9	5075	24,2	2974
Donetsk	14,1	5989	12,1	3167
Zhytomyr	11,2	4000	27,2	3106
Zakarpattya	10,0	4298	24,3	3181
Zaporizhzhya	10,0	5080	23,5	2688
Ivano-Frankivsk	8,8	4202	26,3	3142
Kyiv	6,8	5229	35,8	2686
Kirovohrad	12,4	3974	26,1	3176
Luhansk	16,0	4637	8,6	2515
Lviv	7,7	4559	23,0	3109
Mikolayiv	9,7	4887	22,4	2978
Odesa	6,8	4809	22,5	2942
Poltava	12,6	4621	25,3	2951
Rivne	10,6	4364	22,2	2602
Sumy	9,3	4131	25,6	3001,0
Ternopil	11,5	3695	25,9	2874
Kharkiv	6,4	4448	24,1	2711
Kherson	11,2	4046	24,1	3135
Khmelnytskiy	9,4	4043	26,9	3252
Cherkasy	10,4	4148	27,9	3449
Chernivtsi	8,7	3828	24,6	3087
Chernihiv	11,3	4002	28,3	3314
city of Kyiv	6,7	8648	21,7	2760
city of Sevastopol	…	…	…	…

In general, higher than the average in Ukraine, the unemployment rate was in the sixteen regions: Vinnytsia, Volyn, Donetsk, Zhytomyr, Zakarpattya, Zaporizhzhya, Ivano-Frankivsk, Kirovohrad, Lugansk, Mykolaiv, Poltava, Rivne, Ternopil, Kherson, Cherkassy, and Chernihiv. There significant differences between regions and in the level of average monthly nominal wages. The largest wage bill in 2016, which was from Kyiv residents, exceeded the smallest wage bill in the Ternopil region by 2,3 times (in 2010 – 2,1 times), that is, during this period there were slight adverse developments. Following the size of the capital, wages in the Donetsk region in 2010 were higher than the average in Ukraine by 13,8%, and then the standard in Ternopil region – 1,5 times, in 2016 this difference slightly increased to 15,6% and 1,6 times. However, these differences are much less than the difference in the results of the economic activity of the regions.

In the Ternopil region, the gross regional product per capita population is less than the average in Ukraine by almost 1,9 times, in Donetsk region – by 1,7 times, while in the city of Kyiv, it is 3,6 times higher than the national average, and wages differ considerably less. That is, there is a tendency to equalize wages irrespective of the results of economic activity of the regions. There is no tight relationship between the level of economic development of regions with housing and food quality. Based on the data from the regions, it is possible to conclude that the problems of ensuring sustainable development are not the same in different territories. Industrialized regions need to focus on solving environmental and social issues. Conversely, other regions need to intensify economic activity.

2. Contemporary achievements and perspectives of sustainable development

Economic achievements are the results of different countries in the development of economies of countries and the corresponding increase in the welfare of the population. These results are contradictory, as the result of globalisation has been rapid economic growth and a corresponding rise in incomes of the community, first of all, the leading countries of the world. But the revenues of the poorest countries are even decreasing. Unfortunately, since 1990, the average income of the population of 21 countries has fallen by almost five times, and the former Soviet republics are included in the list of these countries (positive developments have been observed since 2000 only) (UNDP, 2019). Consequently, the world becomes even more polarised. This situation is evidenced by the following comparisons made based on the data shown below.

Table 4. The ratio of the population of different wealth and their income

Category by income	Population, %	Share of revenue, %
Higher income	20,0	82,7
Middle income	60,0	15,9
Low income	20,0	1,4

Source: (World Centric, 2019)

The income of the wealthiest 5% population is 114 times higher than the income of 5% of the world's poorest inhabitants (World Centric, 2019).

Poverty and hunger are also unsatisfactory, although according to the World Bank, the number of people who can afford to spend no more than $ 1.9 a day has decreased from 29.45% to 9.44% over the 20 years (1995-2015) (Our World in Data 2015). These positive shifts are mainly provided by the economic development of two great powers: China and India. But, the number of people suffering from poverty and hunger has increased by 28% in 38 countries of Tropical and Equatorial Africa. In the case of preservation of existing tendencies, the problem of starving can be solved only after 130 years (UNDP, 2019). Among the social problems of the world community, a leading solution requires a reduction in infant mortality, an increase in life expectancy. The differences in these rates are too substantial. For example, the number of dead babies per 1000 born in Sierra Leone reaches 200, in Finland only 3.9; The average life expectancy in Sierra Leone is 33.6 years, and in Japan, it reaches 80 years. Plans for achieving average life expectancy in all countries of the world, not less than 60 years old, have not been met since in the 24 states of Africa it is less than 60 years old (UNDP, 2019).

World achievements in the growth of the share of the educated population are the most significant. This achievement is to increase the number of people with secondary education. But according to the UN, almost 60% of the world's population lives in countries where at least one of the three goals of education development is not met: general primary education, elimination of adult illiteracy, gender equality in education. The low probability of reaching the goals of 2030, especially in South and West Asia, Sub-Saharan and North Africa (UNDP, 2019).

One of the environmental problems of the planet is climate change caused by greenhouse gas emissions. A market mechanism, approved by the Kyoto Protocol, was proposed for its solution. In 1997, this protocol was signed by 154 countries of the world, but the United States was delaying the ratification of the treaty, and in 2001 it finally declared refusal to participate in the protocol. This situation is not surprising, because of the US accounts of its pollutant emissions - 36.1%, while Russia's share is 17.4% and Ukraine's emissions do not exceed 2% (Melnyk, 2005, p. 259).

Signatories must comply with emission reduction commitments. The essence of a market approach is the ability to "sell" emission quotas. Countries that have a significant reduction in emissions will benefit from the purchase of allowances since fines for exceeding the limits from 2005 were planned at 40 euros per 1 ton, and the cost of the quota is 5 euros per 1 ton. Ukraine can, by trading the allowances, receive from 1 to USD 10 billion (Melnyk, 2005, pp. 257, 260).

Developed countries demonstrate an opportunity to reduce environmental pollution, use of clean technologies, and promote the ecological way of life. But the main problem is the lack of balance between production and consumption of natural resources, excessive consumption in rich countries.

Environmental safety of humanity depends on reducing the technogenic impact on nature at least twice. With an existing correlation between production and consumption and rising per capita consumption (2-3% per annum), the UN population's projections for 10 billion people in 2050 require a 16-fold reduction in the intensity of natural resource consumption (UNDP, 2019). For achieving the desiring results, it is necessary to identify and effectively use the factors of sustainable development in all countries of the world.

Among the ways of disseminating the achievements of sustainable development are: development of world trade; technology transfer; investing.

Indeed, trade development has a positive impact on the economic growth of densely populated countries. Although the possibility of reducing differences in the economic development of different countries due to the liberalization of trade is questioning the experts, as the incomes of partner countries are most often increasing, and in low-income countries, due to the low competitiveness of their goods, the negative impact of free trade on economic growth can be observed. Therefore, some scholars emphasise the need for further research to conclude the impact of world trade on inequality between countries (Hladij, 2006).

The example of Ukraine should mention the possibility of a negative impact on the economy due to the growth of exports and the appropriate stimulation of the development of capital-intensive and energy-intensive industries that do not provide solutions to the problems of long-term development. The position of Ukraine is due to the fact that it is in the eastern part of the economic space of Europe, which is still in a state of chaos, along with the critical dependence of production on foreign markets, the only moderate influence of trade development on GDP is observed (Hladij, 2006, p. 401).

Another source of equalisation of economic development can be techno-globalism - the internationalisation of the process of creation and transfer of technologies. Undoubtedly, technology transfer is predominantly commercial. The global technology market provides the opportunity to profit from the use of property rights for the established technologies of production, as well as innovations in production and management processes. In this case, the primary forms of the legal protection of copyright and technology transfer are patents and licenses and appropriate commercial agreements for the right to use them. Among other types of transfer of technology on a commercial basis are the most widespread: the transfer of know-how, i.e. practical experience and "secrets" of the effective use of certain technologies; franchising - allowing the use of specific technology and trademark owner under his control, etc.

For help to countries with economies in transition, the implementation of joint projects with partial financing at the expense of the country assisting is used. Also, the free transfer of technologies in the form of technology grants and managerial knowledge through the advisory services for the professional development of specialists is applied. But significant technological advances in developing countries have not been achieved.

Concerning the further perspectives of sustainable development, the nearest priority tasks, which are specified in the target indicators and the time measurement (by 2030), include: a doubling of the proportion of people who do not have access to sanitation, clean drinking water, earn less than $ 1 a day; decrease by 75% in comparison with 2000 mortality rate of infants and children under five years old; to restore the productivity of fish resources; to ensure the production and use of chemicals with minimal harmful effects on humans and the environment, etc.

Governments must consider the demands of the world community, make decisions that affect global processes and trends, in cooperation with other countries and non-governmental organisations. One of the global problems, the solution of which requires the unification of efforts of different states, is "pulling" countries with low socio-economic development to world standards. According to the United Nations classification, which takes into account the level of economic, social and political development, 200 countries of the world are divided into three groups (UNDP, 2019): industrial or industrially developed countries; countries with economies in transition; developing countries.

Each of these groups is divided into subgroups by different attributes. Thus, among the industrialised countries, the G7 (Great Britain, USA, Japan, France, Italy, Germany, Canada), which concentrates 51% of international trade and produces 47% of world GDP (UNDP, 2019), distinguishes Great Britain. Separate countries of the European Union. Among the countries with a transitional economy are considered separately CIS countries. The group of developing countries is divided by region, level of development, financial criteria, primary export goods.

The World Bank divides countries according to GDP per capita into four categories (Our World in Data, 2015):

- Low income (less than $ 725);
- an average, which in turn is divided into two groups:

lower average (from 726 to 2895 dollars);

higher average ($ 2896- $ 8995);

- high income (above $ 8,995).

There are other approaches to the differentiation of countries in the world (Rosefielde, 2005, pp. 264, 267):

- countries of the first world are the winners with the highest achievements (25 countries with 16% of the world's population);
- "second world" - fast-growing countries - contenders for victory (eight Asian tigers: China, Hong Kong, Taiwan, Singapore, South Korea, Malaysia, Indonesia, Thailand);
- "third world" is a low-income country, which covers 57% of the world's population, which, unfortunately, includes the CIS countries (including Ukraine).

According to Stephen Rosefield, these countries are taking part in the competition, but they do not have real chances to win. One of the means of guiding globalisation is the creation of open and transparent systems in the form of supranational regional unions that streamline processes. European Union is an example of such a system, which is recognised by a supranational international organisation (Confederation). From the standpoint of jurisprudence, the Confederation is an alliance of states based on an international treaty that preserves the sovereignty of states but delegates certain powers to the union. The instrument of ensuring global integration is the obligation of the member states of the Union to refrain from concluding agreements and other actions that could harm the confederation or its participants. The objectives of the European Union are to ensure the well-being of its people through economic unification through the creation of a joint market, the consolidation of cohesion, the preservation of peace and values, and political unity.

Scientists note that the long-term trend of development is influenced by strengthening cooperation between the EU members, the further spread of the EU, the growing importance of regional and local policy actors. On this basis, he forecasts possible scenarios of EU regional policy: two-tier Europe; multi-speed integration; widen metropolitanization; polycentrism.

The first scenario within the core created by the highly developed regions is financial, technological, spatial integration. Peripheral areas develop agriculture, processing industries, their healthy population migrates into industrial centres, and the flow of pensioners is directed to the periphery. Environmental risks are increasing in the centres due to the accumulation of society and the increase of pollution by industrial "emissions" of harmful substances, and in the peripheral areas landscapes deteriorate as a result of intensive agriculture, the probability of fires in idle settlements is increasing, and so on. Therefore, the main problem of international management will be to reduce inequalities in regional development.

Multi-speed integration involves the use of particular regions or cities for the advantages of location in the transport highways (seaports, airports), political or cultural centres of Europe. But again, specific regions will benefit still; such a strategy does not contribute to levelling development.

The third scenario involves the realisation of the process of formation of new innovative circles around towering megacities, technologically intensive sectors are placed along the "growth corridors", which stimulates qualitative changes in the adjoining rural areas, the formation of recreation areas, entertainment. But this policy does not guarantee an increase in disagreements in the socio-economic development of the regions.

The most interesting (with a low probability of realisation) is the scenario of polycentrism, which involves balancing the interests of sustainable development by favouring investment in peripheral zones. This decision will improve the interconnections and relations between urban and rural areas, the rational use of natural resources, and environmental protection.

The policy of development of European civilisation remains a complex sphere of international management, for its final formation and implementation of the implementation, it is necessary to apply conceptually new approaches to both globalisation of management and improvement of management at the state level. Proceeding from this, in order to ensure Ukraine's sustainable development, preserving its economic and political independence, it is necessary to analyse the experience of different countries and to develop its model of the strategy of growth and sustainable development.

3. Approaches to assessing achievements in the sustainable development of territories

The reduction of the divergence in the socio-economic development of different countries is complicated by the fact that in underdeveloped countries, the population is growing at a much higher pace than GDP.

One of the most challenging but significant problems is the achievement of development in stabilising the consumption of natural resources, and even better reducing it. Its solution is possible only on an innovative basis because the "load" on the natural environment will grow and due to an increase in the life expectancy of the population. According to technological forecasts of physicians from the year 2020, synthetic artificial

organs and tissues will be used, genetic therapy will begin to develop, and after 2030 the average life expectancy will be 100 years. It will help to increase life expectancy when reducing the consumption of natural resources genetic engineering to provide the animals and plants with given properties, the production of seafood based on aquaculture and the use after 2030 of artificial food.

The realisation of the tasks of sustainable development is impossible without combining the efforts of all components of the economic system. To accomplish these tasks, a thorough assessment methodology is needed, which will identify the weaknesses of each of the elements of the system and form effective mechanisms for motivating development.

Unfortunately, even at the international level, there is not yet a well-coordinated system for "monitoring sustainable development through the introduction of common indicators".

The general achievements of countries in sustainable development affect their competitiveness, which is reflected in the ratings.

The methods of different organisations are different. Among the most well-known are annual reports that are presented at the World Economic Forum (WEF) in Switzerland (Geneva). WEF Global Competitiveness reports use two complementary approaches at the same time. "

The first index mainly assesses the potential for further growth of competitiveness (GCI) and has three components:

Macroeconomic Environment Index (MEI);

Technology Index (TNI);

Public Institutions Index (PII).

For countries that make up the "core of innovators", the weight of the technology index is 1/2, the other components are included in the general formula with coefficients of 1/4. For countries that are not part of the "core of innovators," all the components of the formula are taken into account with a coefficient of 1/3. Each of the ingredients is evaluated based on sub-indices. When determining them, expert and statistical data of varying importance are used.

Thus, in order to assess the macroeconomic environment (MEI) indicators are defined: macroeconomic stability, credit rating and government expenditure. The definition of macroeconomic stability is based on expert assessments with a weight of 2/7 and statistical data, the weight of which is 5/7.

In the process of defining the Technology Index (TNI), indicators of innovation, technology transfer and information and communication technologies are used. The index of innovations by 1/4 depends on expert data, and 3/4 of statistical, technology transfer is evaluated solely by experts, and the use of information technology - by 1/3 of experts, and 2/3 -statistical data.

Public institutions index (PII), which includes the evaluation of law and corruption, is determined solely by an expert.

The second index (MISI) reflects the microeconomic competitiveness of each country's business entities, consisting of two components: the perfection of the strategy and tactics of companies and the quality of the national business environment. Each part is evaluated expertly by answers to questions from managers from 102 countries (World Economic Forum, 2019).

But the assessment of the competitiveness of countries does not take into account the features of sustainable development, related to the social and environmental component.

From the standpoint of sustainable development, the Human Development Index (HDI) is a more acceptable criterion, the components of which are: GDP per capita, life expectancy at birth, education level. It reflects social achievements, but the ecological component is taken into account indirectly (as a factor affecting the life span).

In assessing the unintended consequences of economic growth (mainly environmental pollution), US scientists V. Nordhaus and J. Tobin in 1972 proposed an aggregate index of " Measure of Economic Welfare (MEW)"(Economics Online, 2019).

The system approach to the assessment of sustainable development based on environmental, economic and social dimensions is proposed by the Institute of Applied Systems Analysis of the National Academy of Sciences of Ukraine and the Ministry of Education and Science of Ukraine.

The methodology foresees the use of well-known development competitiveness and economic freedom indices, which are reflected in the annual Global Competitiveness Report, to assess the economic component.

World experience is also used to assess the environmental component based on the ESI Index (Environmental Sustainability Index), which is calculated by the Center for Environmental Law and Policy of the Yale University of the USA.

Social achievements are proposed to be evaluated based on three components: quality and safety of life; human development; a knowledge-based society.

The evaluation system should provide guidance and control the achievements of not only the state but also individual economic entities.

The list of indicators for economic, environmental and social development, which invites corporations to prepare and publish reporting has proposed by Global Reporting Initiative (GRI).

IIn our view, it is necessary to form a national system for assessing sustainable development based on international requirements. This assessment system should enable not only to evaluate the country's achievements but also the contribution of each region and enterprise or organisation to the success of the final results. Solving this problem will allow managers to make managerial correction decisions based on managed factors in order to achieve the desired result promptly.

People must be responsible for the moral and material pollution of the environment, intentional damage to property, forest plantations, parks.

In order to justify the most appropriate methodology for assessing sustainable development at the regional level, it should be considered that the purpose of the evaluation is to determine achievements, formulate goals and identify the reserves for further development.

To calculate the values of the indicators, we will use the correlation between the value of the indicator being analysed and the maximum value of the indicator for the regions to the indicators of stimuli (those that have a positive tendency in the case of growth)

$$I_j = \frac{x_j}{x_{\max}} \cdot \quad (1)$$

and the ratio between the minimum indicator value for the regions and the indicator analysed for the disinfecting indicators (those with a negative tendency in the case of growth)

$$I_j = \frac{x_{\min}}{x_j} \quad (2)$$

In our opinion, it is advisable to apply such an approach, which was initially used in the methodology for calculating the Human Development Index proposed by the United Nations Development Program (UNDP). This approach allows for a more "contrast" characteristic than in the current formula, where the value of the indicator is defined as the ratio of the difference between the value of the analysed indicator for a particular region and the maximum value of this indicator in Ukraine to the extent of the variation of the index being analysed.

Indicator of Results Sustainable Development (I_{rsr}); should characterise the achievements of the region on various aspects of sustainable development: economic (I_{econd}), social (I_{socd}), ecology (I_{ecold}). Given the impact of economic development on social and environmental issues, the weight of the first component may be slightly higher than the others.

$$I_{rsr} = 0{,}4\ I_{econd} + 0{,}3\ I_{socd} + 0{,}3\ I_{ecold} \quad (3)$$

The economic block of the results of sustainable development should be expanded as follows:

$$I_{econd} = 0{,}4\ I_{ovres} + 0.3\ I_{struct} + 0{,}3\ I_{finres} \quad (4)$$

The first component – I_{ovres} – characterises the overall result, which is determined based on the gross regional product (GRP) per capita and unit of territory, i.e.

$$I_{ovres} = 0{,}5\ I_{ovrespc} + 0{,}5\ I_{ovresput} \quad (5)$$

The greatest importance of this component is due to its application in all regional rankings and a significant impact on one of the main criteria for assessing the country's economic development – GDP.

The second component – I_{struk} – characterises the structure of the region's economy and is estimated based on three components: the volume of industrial production (I_{indust}), agriculture (I_{agric}) and service sectors (I_{servs}) with weighted coefficients that correspond to the structure of the economic complex of developed countries.

$$I_{struk} = 0{,}36\ I_{indust} + 0{,}04\ I_{agric} + 0{,}60\ I_{servs} \quad (6)$$

The third component – Ifinres – allows you to assess the financial result of a region's management, which is characterised by two components: the sum of the financial result per capita ($I_{finrespc}$) and the ratio of the financial result and the gross regional product ($I_{finresgrp}$).

$$I_{finres} = 0.5\ I_{finrespc} + 0.5\ I_{finresgrp} \quad (7)$$

Social aspects of sustainable development (I_{socd}) can be characterised by a set of indicators that can be both one-component and determined based on several components:

$$I_{socd} = (I_{incp} + I_{agcost} + I_{empl} + I_{educ} + I_{livcon} + I_{spird}) / 6 \quad (8)$$

The first component of the block is I_{incp} – an indicator of the income of the population, which consists of the indicator of disposable income per capita (I_{incppc}) and the indicator of the average monthly nominal wage (I_{incpnw}), that is

$$I_{incp} = 0.5\ I_{incppc} + 0.5\ I_{incpnw} \quad (9)$$

However, the income indicator is not an exhaustive indicator, as there are no single fixed prices for goods and services (except government agencies) in the country. This situation necessitates the introduction of additional indicators that consider the purchasing power of incomes received by the population of the region.

The second component, I_{agcost}, is an indicator that characterises the aggregate costs and their structure (the average value of the indicators of residues from the cost of foodstuffs C_{food} and the purchase of goods and services C_{gs}),

$$I_{agcost} = 0.5\ I_{cfood} + 0.5\ I_{cgs} \quad (10)$$

where

$$I_{cfood} = (1 - C_{food}) / (1 - C_{food\_min}) \quad (11)$$

$$I_{cgs} = (1 - C_{gs}) / (1 - C_{gs\_min}) \quad (12)$$

The third component – I_{empl} – the indicator of employment of the population (calculated based on the number of employed in the percentage of population aged 15-70 years);

I_{educ} is an indicator that evaluates the coverage of the population by education at different levels: in pre-school establishments (I_{educps}), in general secondary educational institutions (I_{educgs}), vocational-technical schools (I_{educts}), in institutions of I-II accreditation levels (basic higher education – I_{educbh}), in institutions III-IV accreditation levels (full higher education – I_{educfh});

$$I_{educ} = 0{,}2\ I_{educps} + 0{,}2\ I_{educgs} + 0{,}2\ I_{educts} + 0{,}2\ I_{educbh} + 0{,}2\ I_{educfh} \quad (13)$$

I_{livcon} is an indicator of living conditions, which includes: an indicator of the housing provision ($I_{livconhp}$), an indicator of the number of private cars per 1000 inhabitants ($I_{livconpc}$), an indicator of the volume of services rendered per capita ($I_{livconvs}$), indicator of saving of individuals on accounts in banks ($I_{livconba}$),

$$I_{livcon} = 0.4\ I_{livconhp} + 0.2\ I_{livconhp} + 0.2\ I_{livconvs} + 0.2\ I_{livconba} \quad (14)$$

I_{spird} – provides an opportunity to assess (availability) the degree of use of conditions for spiritual development, organization of leisure on the basis of: the indicator of visiting the population of cultural institutions ($I_{spirdcult}$), indicator of the number of health-improving children in health and recreation facilities ($I_{spirdrecr}$), indicator of the number of children attending sports schools ($I_{spirdsport}$)

$$I_{spird} = 0{,}5\ I_{spirdcult} + 0{,}3\ I_{spirdrecr} + 0{,}2\ I_{spirdsport} \quad (15)$$

The ecological component of sustainable development has the following structure:

$$I_{ecold} = 0{,}5\ I_{ecoldre} + 0{,}5\ I_{ecoldenv} \quad (16)$$

The value of the first component ($I_{ecoldre}$) will depend on the effectiveness of the use of forest ($I_{ecoldref}$) and water ($I_{ecoldrew}$) natural resources. The efficiency of land use was considered earlier when calculating the indicator of the overall results of economic development. The effectiveness of forest resources is determined based on the volume of products, works and services of forestry by regions per unit area of the region. The efficiency of water use will be considered as the volume of fishing of fish and extraction of other aquatic living resources per capita.

$$I_{ecoldre} = 0{,}5\ I_{ecoldref} + 0{,}5\ I_{ecoldrew} \quad (17)$$

Table 5. The result of calculating the indicator of sustainable development of regions in Ukraine

Regions (Oblasts)	I_{socd}	I_{ecold}	I_{econd}	I_{rsr}	Rating
city of Kyiv	0,876	0,265	0,957	0,725	1
Zaporizhzhya	0,659	0,266	0,396	0,436	2
Donetsk	0,616	0,037	0,459	0,380	3
Poltava	0,610	0,167	0,307	0,356	4
Kyiv	0,599	0,248	0,237	0,349	5
Dnipropetrovsk	0,628	0,030	0,376	0,348	6
Volyn	0,560	0,417	0,128	0,344	7
Zhytomyr	0,599	0,286	0,182	0,338	8
Chernivtsi	0,594	0,404	0,064	0,325	9
Mikolayiv	0,609	0,238	0,176	0,324	10
Cherkasy	0,609	0,253	0,139	0,314	11
Odesa	0,574	0,158	0,218	0,307	12
Vinnytsya	0,620	0,228	0,103	0,296	13
Kherson	0,604	0,247	0,094	0,293	14
Kharkiv	0,618	0,086	0,199	0,291	15
Rivne	0,526	0,255	0,140	0,290	16
Sumy	0,644	0,154	0,115	0,286	17
Chernihiv	0,587	0,204	0,117	0,284	18
Zakarpattya	0,532	0,266	0,096	0,278	19
Khmelnytskiy	0,637	0,123	0,105	0,270	20
Kirovohrad	0,596	0,144	0,103	0,263	21
Luhansk	0,602	0,034	0,166	0,257	22
Lviv	0,566	0,096	0,122	0,248	23
Ternopil	0,550	0,139	0,074	0,237	24
Ivano-Frankivsk	0,565	0,099	0,074	0,229	25

Source: calculated from Verner, 2018, Part I & Part II (without considering the occupied territories)

The second component ($I_{ecoldenv}$) reflects the improvement (deterioration) of the ecological status of the region in comparison with others due to the discharge of contaminated return water ($I_{ecoldenvrw}$), emissions of harmful substances into the air ($I_{ecoldenvhe}$), the formation of toxic waste ($I_{ecoldenvtw}$).

$$I_{ecoldenv} = 0,3\ I_{ecoldenvrw} + 0,3\ I_{ecoldenvhe} + 0,4\ I_{ecoldenvtw} \quad (18)$$

The proposed methodology is intended, first of all, to identify an imbalance both in the development of a specific region and between regions within the country.

Conclusions.

Therefore, in terms of economic security of the state, increasing the competitiveness of the country's economy in world markets, it is necessary to carry out strategic management of sustainable development at the state level. It must consider the impact of the external environment, the demands of the world community on compliance with specific standards of sustainable development. The country's strategic plans determine the development benchmarks, the desired contribution of each region to the achievement of strategic goals. But the main burden and responsibility for socio-economic accomplishments and the efficiency of the use of natural resources in the region lie with the regional authorities. It is precisely from its ability to create the conditions for the formation of the optimal structure of the economic complex, the development of human capital, the consolidation of the efforts of business, the authorities and the community to ensure the "breakthrough" in socio-economic development, depend on real achievements of the region and the country.

The key to sustainable development is the implementation of the concept of balanced management. The implementation of the idea of stable management involves the creation of a fair system of indicators, in which it is appropriate for the regional level to allocate economic, social and environmental components in accordance with the three main aspects of sustainable development. At the same time, the economic segment should be divided into three subsystems: industry, agriculture and services, since their correlation significantly influences the overall results of the economic development of countries and regions. The system of balanced indicators is necessary for the purposeful, gradual transfer of the region from the present state to sustainable development. Therefore, the introduction of stable management technology needs to assess the achievements of regions in sustainable development based on indicators based on driven growth factors.

The introduction of a balanced management system involves the formation of long-term and short-term goals, considering the position of the region in the country. For the long-term, it is advisable for leaders to focus on the best world achievements, and to achieve the best results in the short-term, not only in economic development but also in the social and ecological state of the territory. Regions with average achievements should be guided by indicators of leaders, and outsiders – on average results in a country. It is also necessary to identify key development factors.

The purpose of assessing achievements in the sustainable development of regions is to compare results in various fields of activity, to create a basis for the formation of goals and to identify the reserves for further development. The overall indicator of sustainable development proposed by the author includes three components: economic, social and environmental. The weight of the economic element is somewhat higher because economic achievements are the key to increasing social standards and improving the ecological state. The calculations of indicators of sustainable development and its components for the regions of Ukraine illustrate the presence of specific problems in each of them. In the industrially developed regions, the worst indicators of the environmental block, areas with low economic achievements need to improve the structure of the economic complex.

References:

Bilorus, O.H. & Lukianenko, D.H. (et al). (2001) *Globalization and development security: Monograph*. Kyiv: KNEU [in Ukrainian]

Economics Online. (2019). *Measure of Economic Welfare* (*MEW*). Retrieved from https://www.economicsonline.co.uk

Hladij, I.I. (2006). *Regionalisation of the world market: Eurointegration aspect: Monograph*. Ternopil: Ekonomichna dumka [in Ukrainian]

Melnyk L.H. (Ed.). (2005) *Basics of sustainable development*: Sumy: [in Ukrainian]

Our World in Data. (2015). *Global Extreme Poverty.* Retrieved from https://ourworldindata.org

Rosefielde, Steven R. (2005). *Compare economic systems*, Kyiv [in Ukrainian]

Tunytsia, T.Yu. (2006). *Balanced natural resources: national and international context*. Kyiv: Znannja [in Ukrainian]

United Nations Development Programme (UNDP). (2019). *Human Development Reports* Retrieved from http://hdr.undp.org/en/data

United Nations Ukraine. (2019). *Millennium development goals.* Retrieved from http://www.un.org.ua

Verner I.E. (Ed.). (2018). *Statistical bulletin "Regions of Ukraine" 2018, Part I.* Kyiv: Derzhavna sluzhba statystyky Ukrainy. Retrieved from:t http://www.ukrstat.gov.ua [in Ukrainian]

Verner, I.E. (Ed.). (2018). *Statistical bulletin "Regions of Ukraine" 2018, Part II*. Kyiv: Derzhavna sluzhba statystyky Ukrainy. Retrieved from: http://www.ukrstat.gov.ua [in Ukrainian]

World Centric. (2019). *Social & Economic Injustice.* Retrieved from http://www.worldcentric.org

World Economic Forum. (2019). *The Global Competitiveness Report 2017–2018* / Retrieved from http://www3.weforum.org

Yulia Kosenko
Assistant of the Department of Ecology and Life Safety,
Uman National University of Horticulture,
Uman, Ukraine
orcid.org/0000-0003-2408-3544
Tatiana Karpenko
Assistant of the Department of Physical Geography, Local History and Tourism,
Krivoy Rog Pedogogical University,
Krivoy Rog, Ukraine
orcid.org/ 0000-0002-0411-270x

ECOLOGICAL TOURISM IN A TOURISMOLOGY - PHILOSOPHICAL AND PHENOMENOLOGICAL CONTEXT

Abstract. *The essence of ecological tourism is revealed. The influence of its social functions on the formation of national and ecological culture are defined. Ecotourism, promoting the general and to ecological education of people, together with education and promotion of ecological knowledge promotes to the formation of a new level, the newest type of national culture. A traveling person is not just a consumer of tourist products that moves in space and time but also an individual which during travel, trips, campaigns, visits joins the world of the nature and cultural artifacts, "valuable galaxies" of other countries and the people. Such personality is the epicenter of philosophical reflections of tourism. It is proved that nowadays ecological tourism is actively develops in Ukraine, and therefore demands creation of a new paradigm for its support and promotion. The Ukrainian ecological phenomenon is put into the basis of the paradigm approach. It is noted that its realization of it is possible through the introduction of a public-private partnership in tourism.*

JEL Classification: Z1, Z32, Z39

Introduction.

Nowadays tourism occupies one of the leading places in the world economy, which prompts state institutes to the implementation of active measures of advertising and promotion of a national tourist product. Incoming tourism attracts a keen interest of the leaders of any country, and at the same time it activates international tourist flows to the certain tourist destinations thanks to its unique offerings. At the same time, there is a growing need for the development and adoption of new scientific approaches to the development of domestic tourism, which promotes travel inside the country.

Current trends accelerate processes of development and search of new vectors of tourism development in Ukraine, which has a strong recreational and tourist potential for this. Ecological tourism which scientists consider differently becomes confirmation of the growing interest: as a version of specialized, ekogeografichny, cultural and informative, other types of tourism and therefore there is a need for deep theoretical and methodological research that can be perceived not only by the scientific community, but also wide circles of the national and world tourist community. It serves as a basis for the adoption of a new paradigm for the development of domestic and inbound tourism in Ukraine through discovering its uniqueness and uniqueness on the tourist map of the world.

Considering told above, the eco theme even more often becomes the priority direction of scientific research domestic tourism, ecological, philosophical, sociological, psychology and pedagogical and state and administrative researches, confirming relevance of the offered research.

1. The phenomenon of tourism

The need for a theoretical understanding one of the phenomena of modern civilization - mass tourism as a kind of human activity and recreation associated with visiting places that cause a certain interest for various reasons - caused emergence of the philosophy of tourism as type of applied, primarily, social philosophy.

The aspiration to travel, learn and understand new, to join it, to broaden the world of own life is put in depths of human mentality. Accumulating and summarizing in stories, reports, memoirs, diaries of the traveler of different historical times, got during knowledge travel gradually took shape in a certain system of knowledge of travel which components is the regional geography, ethnology, cultural history. From the beginning of its formation, knowledge about the world, obtained during travel, contained theoretical and theoretical elements, including philosophical ones. However, only in the last centuries (XIX - XX centuries), the disparate knowledge about the journeys began to acquire a formalized conceptual appearance, became the subject of comprehensive comprehension of travel (motivation, varieties, target installations, infrastructure) - the philosophy of tourism (Ziaziun, 1999) .

The philosophy of tourism - a kind of social philosophy, theoretical and methodological basis of tourismology, the theory of human activity as a form of self-realization of personality by means of journey and travel (Horskyi, 2002) .

With the development of travel, the acquisition of more organized forms, the most developed, the large-scale of which is tourism, and the urgency of the need for his philosophical comprehension becomes acute. "There is a challenge to philosophy from modern tourism. The mentioned challenge can be considered as a problem of determining the substantive principles of tourism ", - says the Ukrainian philosopher V. Kyzyma (2007).

The philosophical and theoretical definition of these essential principles takes place in the context of the "turn to the person" inherent in modern social science. Human dimension as the newest paradigm makes it necessary to change the emphasis in the logic of comprehension of tourism. From this point of view, the philosophy of tourism is primarily the philosophical understanding of the person as a participant of tourist events (Horskyi, 2002). The philosophical view of tourism necessitates a revision of the traditional understanding of tourism as an industry of travel and recreation, giving to such understanding a broader humanistic meaning. A traveling person is not just a consumer of tourist products moving in the space and time, but also an individual who travels, visits, visits, visits to the world of nature and cultural artifacts, " value galaxies " from other countries and peoples. Such personality is the epicenter of philosophical reflections of tourism.

Personality is not only able to contemplate the world or consume it, in barbaric use of it (for example, the damaged forest glades after a tourist "invasion" of the day off), and admire, master and master the riches of nature and culture, transforming the acquired knowledge and impression on the acquisition of their own spirituality (Ziaziun, 1999). This implies an appropriate emphasis on world-view, cultural, humanistic, cognitive, ethical, aesthetic, communicative values of tourism as a specific social institution and the phenomenon of universal culture. In this aspect, the main object of tourism studies is not routes, hotels, campsites, travel agencies and agencies, but the person who travels, the world of its interests, desires, aspirations, valuable reference points.

Philosophical reflection on the world of traveling people, their world outlook and worldview is consistent with the mega-tendency, the content of which is a general civilization turn from an industrial society to a humane, truly human society (Ziaziun, 1999).

In a tourismology there are a lot of problems which are analyzed only by philosophical means, concepts - "subject", "object", "sense", "essence", "outlook", "culture", "values" and others. The philosophical approach to the tourism provides application of the main methods of knowledge and an explanation of various links of tourist process (Ziaziun, 1999). According to these methods of the philosophical theory of tourism structural sections which set provides its system integrity are formed. It is about historico-philosophical tradition (Horskyi, 2002). In its framework philosophical views of thinkers of different eras and schools of sciences of those manifestations of human wants and desires which are embodied in journey, travel, campaigns, wanderings arose and developed. A historico-philosophical part of a tourismology seeks to find out the causes of desire of change of places, features of its implementation in different historical times. Using a method of comparison (comparative), historical and chronological approaches to a travel phenomenon, she finds as the general regularities of tourist process, its constant characteristics, and features of its manifestation in various cultures and at various times (Malakhov, 2002).

Semantic purpose of tourism (to travel for the purpose of knowledge and satisfaction of the requirements) is implemented thanks to spatial, temporary and social conditions of travelers of events. They formalize all reasons on tourism, formulate requirements, and qualitatively distinguish tourism from other types of travel of the person. The philosophy of tourism offers criteria by means of which the conceptual framework of tourism is formed, not each travel corresponds to criteria of tourism, each traveler - the tourist (Mountain, 2002). Scientific definitions allow separating the tourist (the real traveler) who travels freely and consciously, from those who move the world spontaneously, wanders aimlessly or travels, being guided by mercantile reasons.

The meaningful purpose of tourism (traveling for the purpose of knowledge and satisfaction of their needs) is realized thanks to the spatial, temporal and social conditions of travel events. They formalize all considerations regarding tourism; formulate the requirements that qualitatively distinguish tourism from other types of human travel.

The philosophy of tourism offers the criteria by which the conceptual apparatus of tourism studies is formed, since not every trip meets the criteria of tourism, not every tourist is a traveler (Horskyi, 2002). Scientific definitions make it possible to separate a tourist (a true traveler) who travels freely and consciously, from those who move spontaneously, wanders purposelessly or travel, guided by mercantile considerations. The English philosopher and the sociologist Z. Bauman drew attention to the dichotomizing (Greek Dicho-tomia is halving) understanding of the person who travels: tourist and just wanderer (tramp; tramp; the flaneur (fr. Flâneur) - a person who travels without the purpose; the salesman (fr. commis voyageur - the wandering employee) - traveling agent of trading company, the merchant; refugee; immigrant, etc.). In society there have always been and will be nomads, which by some features are similar to tourists (Ziaziun, 1999).

Consequently, the specific kind of organized travel - tourism - has such attributive, that is, inalienable, qualitative features: existence of an attractive purpose (familiarity with cultural artifacts, cognition, recreation, entertainment, recreation, new acquaintances, etc.); spatial-temporal coordinates of the journey (home as the beginning and end of the journey) (Ziaziun, 1999) .

Like any other social phenomenon, tourism existed in various forms of travel and with different motivations. Therefore, the assertion that every tourist is a traveler should be supplemented by the consideration that not every tourist is a traveler. Tourism - the phenomenon generated by a modern civilization. Having arisen in the 19th century as the system of mass organized trips, campaigns, visits, assumed a global scale, it was issued in different types of tourist practice. Achievements by tourism of mature forms created opportunities for its theoretical, philosophical reflection (Malakhov, 2002).

The philosophy of tourism is a kind of socio-philosophical ontology and phenomenology. Its object is society as "the vital world" of the traveler, a source of its cultural experience which it gains as a result of communication with the world of culture, other experience and experience of others (intersubjectivity and interpersonal communication). Phenomenology of tourism peculiar reflects the problems of value, sense, assessment of tourism practice. Its awareness helps to a tourismolog to decipher the semantic values of objects of tourist interest. The philosophical understanding of the phenomenon of tourism is implemented also due to its hermeneutical potentialities - understanding and perception of values of culture which is carried out on tourist travel by their interpretation, interpretations. A person who learns not only listens, reads and observes but also personally intellectually deciphers the maintenance of monuments of history, masterpieces of architecture, and works of the nature. By doing so, she master them, makes her (appropriation). Discovering another world,, the person at the same time imagines diversity of the cultural environment, defines features of the life, compares it with the lives of others. Comparability, comparisons (comparativism), evaluation and self-determination (self-identification) - important world outlook - philosophical signs, are initiated by tourist events.

As a result, ethical and psychological complex of feelings about what has been seen and experienced personally is formed - pleasure and dissatisfaction, envy and pride, joy and disappointment, etc.

Saturated with the philosophical man-centered content, tourism has a developing influence on the personality, that is, has anthropological (human) values (Horskyi, 2002). If a person remains unchanged during a trip - this is a bad trip, according to a German philosopher and sociologist Ernst Blokh (1885-1977), the creator of the "philosophy of hope" and ontology "yet - non- being". Conscious participants in tourist events feel involved in the creation of a civil space of civilized human unity (noosphere), in which a person is not a stranger, but a legitimate resident, owner.

Tourism is an effective remedy of realization of human values (interest, the choice, freedom, interest, desire, friendliness, pleasure, self-identification, self-realization, etc.). The axiological aspect of tourist activity is very important, as the result of even short-term travel is the deepening of their own ideas about the values of culture and social life. Thanks to it there are a certain correction of valuable orientations of the individual, viewing of own ideas of advantages or shortcomings of other way of life. Each person is, in fact, "a measure of all things": it uses its own measuring ability in relation to the events to which it relates.

An important philosophical and humanistic significance as a result of the value-capture of the world becomes the formation of a communicative culture of the individual, the emergence in society of an inter-individual network of communication, mutual respect, and tolerance. The universally recognized spiritual purification force of pilgrimage to the holy places. Not less powerful and emergence in pilgrims special feeling of unity. For many of them, the journey with like-minded people is of paramount importance (Malakhov, 2002).

Given the development trends of humanity in the XXI century. should turn out to be a humanitarian turn, a transition from a destructive type of civilization to its consumer attitude to nature, xenophobia, irreconcilable economic and political rivalries to a human-oriented model of cohabitation. One of the factors in the formation of such a model is the ethics of communication and cohabitation, which is based on the recognition of the equality of beliefs and attitudes, the combination of the values of individual freedom and shared responsibility, which is the basis of universal human culture, as well as the concept of "new humanism". This concept is one of the features of the theoretical model of universal human values axiological maxims, the content of which, specifying in each new historical era, ensures the existence of the human community, the continuity of processes of social life.

Tourism as the most democratic form of human relationships contributes to the moral well-being of a modern society, which suffers from acquired social immunodeficiency - a lack of sincerity and warmth of human communication (Ziaziun, 1999). Humanistic-therapeutic meaning of communicative culture and ethics is determined by such values:
a) the principle of self-sufficiency of the individual (recognition of human dignity); b) the principle of tolerance (benevolent attitude to alternative or dissimilar opinions, beliefs, ways of life).

By interacting and complementary, these principles (in case of their observance) contribute to the formation in society a moral atmosphere of true communication, trust as the basis of friendly unity, social harmony and civilized interaction.

Tourist communications contribute to the establishment of relations of a relaxed, voluntary communication, based on trust, sincerity, charity. The real tourist is a dialogical style person, capable not of the factual (lat. - stupid), meaning meaningless, formal communication, but on the interested, morally significant, socially perspective. The culture of communication, trusting relationships does not arise automatically, they require significant volitional effort, desire and ability to negotiate, psychological willingness to benevolent contacts. To ensure such a culture called all public institutions - economy, politics, diplomacy, education, science, art. An important link that can integrate humanity, overcome the tendencies of separatism, split, confrontation, hostility and mutual suspicion is tourism. (Zyazyun, 1999). With its diverse capabilities, it is able to solve many interrelated issues of great social significance. One of them is to ensure the integration of the modern "torn world", and to promote solidarity tendencies, communitarianism. " ...Through direct, instant and relaxed contacts by men and women representing different cultures and lifestyles, tourism contributes to ensuring the atmosphere of good neighborliness and hospitality in the world and regional communities" ("The Global Ethic Code for Tourism"). Such communication creates alternative or complementary Internet and other communicative institutions live planetary and interpersonal network of communication.

Communication of people, travelers - one of the universal forms of interpersonal contacts. Internationalization and globalization of life makes it one of the important factors that determine the quality of life of humanity. It is no coincidence that tourism is considered as an effective channel of "national diplomacy", because human relations are higher than government relations, they are direct, sincere, transparent. In this sense the high humanistic potential allocated social, family, youth, religious, "nostalgic", "event" travel and also tourism for people of "the third age" and disabled people. These signs "tourism is conformable to humanity" (M. Bido).

In the sense of tourism as "human enterprise" an important role is played by the ability of the theoretician-touristologist to distinguish the existential dimension of being of a traveler, primarily in its unity with the nature, and environment. Tourism helps to overcome the limitations of everyday life, get rid of the daily haste. Real tourism is characterized by existential ease. The existential aspect of tourist travel is determined by the reciprocity of the tourist trajectories of the tourist surely has to come back home and be engaged in affairs, habitual for it (Malakhov, 2002).

The philosophy of tourism includes also a moral and psychological component. One of the forms of professional moral of those who professionally are engaged in this type of activity is tourism ethics. In the behavior of a specialist in tourism (tour operator, travel agent, travel agency leader, etc.) moral and psychological qualities are extremely important.

Every decent, upbringing person at a meeting with strangers is trying to make a pleasant impression, be friendly, friendly and attentive. For some people moral culture can be purely functional, demonstrative. Impolite treatment with visitors threatens successful business. Modern tourism business as a form of social activity should be fully consistent with "human dimensions", to be humane centered on the essence. Tourism has to be planned and be carried out as exclusive means of individual and collective improvement. Combining with spiritual emancipation, because a tourist is a free person who self-determines tourism is a unique means of self-education and self-education (ethics, pedagogy and psychology of tourism (Horak, 2002).

Like any other social-economic problem, freedom in tourism is intra-contradictory: in order to be truly free, the individual must freely possess and dispose of material, economic, political, legal, and intellectual-intellectual freedom. It focus on freedom of choice - choosing a type of tourism or travel, program, content, etc. Only under these conditions, a person is able to realize his choice in the meaning and volume desirable for her (Perro, Terner, 2001). In the real life, this is manifested in the freedom that is used by the "elite" tourist, to whom are offered the most exotic routes, the most exquisite service and cultural entertainment, and in the freedom of the "social" tourist who can count on more modest services.

Freedom as spiritual value is always a source of understanding by the tourist of own advantage. It is hard to realize it. On democratization of the public relations the problem of social tourism - travel becomes aggravated, are subsidized from sources of off-budget financing and at the expense of the funds allocated by the state for social needs. The essence of social tourism is defined sometimes according to the social status of the main contingent of participants: tourism for needy; the activity directed to a recreation (restoration) of the person due to providing the minimum enrollment of improving tourist services. Such understanding considerably narrows range, impoverishes the maintenance of this kind of tourism. It is expedient to consider social tourism in the context of tasks and the purposes of social policy, charity does not come down only to "social" (Perro, Terner, 2001).

Social tourism, which enjoys financial support of the state, trade unions, also serves as an encouraging function, as it stimulates the socially useful activity of people. However, the introduction of market relations, as a rule, is accompanied by an effort to reduce the cost of social programs, including social tourism. The fact that earlier in our country was considered a mandatory function of the state (improvement of the general population), has recently become the subject of voluntary interest of individuals. Such approach demands public adjustment. Socially defined is the tourism activity, aimed at the social adaptation of its participants to the cultural and educational opportunities of society, which is especially important for the younger generation. With the deterioration of the crime situation, the increase in the level of child and adolescent crime, socially oriented, educational tourism plays a prominent role in preventing the illegal (deviant) behavior of young people (Krysachenko, Khylko, 2002).

2. Ecological culture and tourism

An important component of the philosophy of tourism is its ecological component. The person - an organic part of a holistic ecosystem, which predetermined the attraction of a city dweller to nature. However, the pressure of tourist flows into nature becomes threatening for it. According to forecasts, the scale of international tourism in the next twenty years will be tripled. Respectively, will amplify an environmental pressure, the ecological danger can assume a new scale, the nature not "remains indifferent" concerning people, not make thrifty use of it (Koval et.al, 2019). Inevitable of her "revenge" there is poisonous water in rivers and lakes, filled with harmful substances, mushrooms and berries, contaminated air. Therefore, all participants in the tourist process are obliged to protect the natural environment, to take care of tourist resources, recreational zones as a common property of the communities in whose territories they are located (the concept of co-evolution, that is, the coherence of man - nature - society) (Krysachenko, Khylko, 2002). Such is one of tasks of "green tourism" which stimulates inclination of residents of megalopolises to rural areas where traditional crafts remained and reproduced attracts them to sources of folklore culture. It promotes active awakening and upbringing historical memory, patriotic enlightenment, without which national revival is impossible.

Ecotourism is an especially important form of tourism, because it is able to reconcile the vital needs of present and future generations, first of all, the need for a healthy living environment. It combines the socioeconomic and cultural interests of urban and rural populations (Krysachenko, Khylko, 2002) .

The benefit of eco-tourism for rural residents, residents of small towns and villages is to create jobs, solve the problem of employment of the population, relevant for Ukraine. Creating a new job in tourism, according to economists, is only 40% of the cost of a new job in the industry. Important for this is the improvement of tourist rural areas, the formation of a civilized infrastructure of rural hospitality. As practice shows, 90% of the modern world tourist infrastructure is its private sector, much of which is located in the rural areas (Malakhov, 2002).

The attractiveness of ecological tourism is determined by its role in the mutual enrichment of the spiritual world of its participants: citizens are able to visually assess the essence of rural lifestyle, its attractive sides; villagers - to perceive the positive aspects of urban culture. By playing interdependent roles in tourist communication, its participants strengthen the public corporate consciousness - "the feeling of a single family" (Krysachenko, Khylko, 2002).

Consequently, philosophical comprehension of tourism involves finding out his epistemological, social, axiological, spiritual-cultural, integration, communicative functions. Philosophical-ideological approach to the study of tourism convinces that it significantly contributes to the unification of people, communication and socialization of individuals on the basis of their familiarity with the values of domestic, world cultures, the mastering and

dissemination of universal human ethical values. In this sense, any, except for the surrogate (lat. - a substitute having only certain properties of the subject (product) that replaces), tourism is "cultural ". Culturalн-moral orientation is inherent in business, business or health-improving tourism. Therefore, the correct basis for the differentiation of types of tourism is not a criterion of culture ("Cultural " - "non-cultural" tourism), but its content-functional purpose (Perro, Terner, 2001) .

Ecological culture - the direction of human activity and thinking, from which the natural existence of modern civilization and its sustainable development depend to a great extent. The study of the interaction of social and natural in human life allows us to talk about specific manifestations of culture in the ecological sense. Without awareness the circle of problems that belongs to the ecological culture, it is impossible to understand why some ethnic groups live in harmony with nature, that is, it is established in the world as an ecophilic one, while others leave behind the ruin as an epofobic community; why in some cases, human activity generates harmonious landscapes and ecosystems, while in others - the environment becomes a desert (Horak, 2002).

And though the phenomenon of ecological culture is property of the 20th century, with the awareness of necessity for reorganization by humanity of their lives for the purpose of maintaining safety and health, about the ecological component of culture can be claimed from appearance of the person. The ecocultural norms develop under the influence of the prevailing in society method of transformation of natural space. At each stage of development, they cover the most significant achievements of the ways of the organization of human activity which are saved up by society during evolution (Holubets, 1991). Eco-cultural stereotypes of behavior act as a translator of the experience of the ecological activity of people from generation to generation. As a driving force in the relations between society and the nature ecological culture gravitates to creation of qualitatively new system of the means and mechanisms promoting a solution of the problem of global ecological crisis. The main function of the ecological culture is the organization of relationship of society and the nature taking into account practical requirements of society, ensuring maintenance of stable state of nature for preservation of living conditions and development of humanity (Malakhov, 2002).

To the other factors included: educational (formation of certain stereotypes of behavior in relation to the nature of individual individuals and society as a whole); prognostic (creation of possible predictions of the consequences of human activity, results of the transformation of nature); regulatory (management of the attitude of the society to nature in the process of the personality of the gendarmerie activity) (Holubets,1991).

That is how the ecological outlook of the person is formed in the process of mastering the practical skills regarding the nature; develops on the basis of professional environmental education, information and education of ecosystem thinking.

Education and formation of eco – science is a problem that needs to be addressed in a comprehensive manner with the involvement of various factors. The ecological culture is based on the best humanistic, eco-philosophical traditions of culture; forms a commitment and careful attitude to all forms of life and conditions that provide it (Malakhov, 2002). The person has to realize himself as a part of natural space, understand the role in maintenance of natural balance. The solution of the problem of global ecological crisis is possible only within ecological culture, "society nature" acts as a necessary condition of optimization and harmonization of a system. In these conditions, ecoculture performs as the function of self-preservation of the society (Holubets, 1991).

3. The philosophical problems and contradictions in tourism

The philosophical view on a phenomenon of tourism reveals in it both positive, and negative factors. As well as to any social phenomenon, tourism contradictions are inherent: between a trend of democratization of public life and elitization of hotels, excursion services; between globalization of tourist communications and a certain delimitation of separate regions of the location of tourist centers; between increase in volume of tourist flows and limitation of zones of tourist attractors (Latin - to attract, tempt) with respect to their reception, etc. One of the most acute in the theory and practice of tourism is an environmental problem (Fedorchenko, 2001).

Recognizing natural tourism and eco-tourism as the most valuable forms, that have a particularly positive effect on a person, it is necessary to take care for protection and preservation of the environment which consists of ecosystems and biological diversity at the same time. Participants of the tourist process, especially specialists in the field of tourism, must agree with the certain restrictions on activities in areas of "problem "ecology - vulnerable natural areas and reserves. However, a traveling person should also understand his responsibility for the preservation of nature (Tarasenko, 1985).

The universalization of tourism causes devaluation of original national cultures. Placement of the standards of the mass tourism market, for example, "Magdonald's cuisine", "fast food" system (fast food), dissolves unique cultural samples, leads to the emergence of artificial cultural artifacts, which often acquire a frankly commercial or masquerade carnival character (Krysachenko, Khylko, 2002). There are still remains a problem situation when the incomes from tourism are almost the only source of the inhabitants of places attractive to tourists. It generates their dependence on weather conditions, the unstable situation on the market of agricultural products, services, from the course of political events, etc.

A quantitative increase in the amount of hotels and other enterprises of tourism infrastructure is not accompanied by an increase in the professional level of their employees. Many managers of the tourist industry have no sufficient knowledge and skills in the organization of hospitality. Therefore, in the philosophy of tourism, the praxis component - the theoretical modeling of the development of tourism, the development of programs and master plans for its improvement. According to one of its founders, the Polish philosopher Tadeusha Kotarbinskoho (1886-1981), praxeology should methodologically

and scientifically justify the "grammar of action"- the logic of the organization of work. The philosophical basis of praxeology is a healthy pragmatism, the theory of a balanced practical attitude to the world. The main provisions of the phraseological philosophy (logic of efficient action, creating conditions for fruitful work, focus on the interaction civilized competition, that" consent disagree") is the subject of theoretical and methodological understanding of tourismology (Fedorchenko, 2001). Praxeology oriented tourism management and marketing, technological mechanisms of tourism functioning (hotel industry, insurance, transport, logistics (science of transportation of goods, equipment), service, food, information support, etc.). Between purely philosophical and philosophicaly-praxeological problems there is no transient boundary, but taking into account the features of the theory and practice of tourism is an important factor in the development of tourismology, including its philosophical part (Tarasenko, 1985).

The subject of philosophical comprehension is the peculiarities of innovative, creative thinking and activity of workers of the tourist sphere, a problem of "alternative" tourism. Its appearance suggests that the traditional (mass, standardized) tourism for many gradually loses its attractiveness, as well as the great potential of tourism, its ability to acquire innovative forms, enriched with new semantic meanings. An alternative always allows you to choose. An alternative claims in tourism often challenge such qualities of "normative" tourism, as mass, standardization, guaranteed safety, unconditional comfort. Alternative-travelers prefer extreme types of tourism, exotic forms of entertainment, and small groups of travelers. The originality of "non-standard" tourism services is due to the emergence of new interests and desires in the "homo viator" structure (Krysachenko, Khylko, 2002).

This, in particular, led to the emergence of such types of extreme tourism as a diving (diving), mountain, speleological (hiking in caves), adventure (tours to exotic natural reserves), etc. The inherent contradictions in tourism, negative tendencies, explicit and latent (latent) threats are also the object of philosophical attention (Tarasenko, 1985). Therefore, the planning and implementation of large-scale tourist events, everyday tourist practices should be carried out not only by specialists and industry experts, who focus on the monetary, material, statistical aspects of tourism, but also all organizations, institutions and enterprises involved in tourism.

4. Recent views on ecotourism and reserved matter in the context of post-classical philosophy

Of course, ecological tourism is understood mainly as visiting the most environmentally balanced, unpolluted, reserved areas. Such an attitude contributed to the persons' attempt to escape from the cities, saturated with technology and industrial objects. The leading motive for participating in traditional ecological tours is a desire to enjoy pristine nature. According to the WTO, 7-10% of annual income of all industry of tourism belongs to the eco-tourism accounts. The social importance of this type of tourism lies in the educational and recreational significance. However, in ecological processes there is always a "reverse side". In industrial and urbanized regions, man-made landscapes and man-made

processes are dominated everywhere. Therefore, the task was to rethink the traditional approach to defining the content of environmental tourism, especially in an industrial area.

The present stage of development of the terrestrial landscape is characterized by a truly planetary intervention of a person in the state of the nature. Humanity has done so that on the Earth there is no natural landscapes altogether. All modern landscapes in one way or another, transformed by a person. In mining and urban areas there are generally newest man-made landscapes; humanity has caused a lot of environmental problems. This raises the question of methodological nature: if the consequences of anthropogenic transformative activity of nature is an element of the ecological framework of the territory, is a product of human life, is a part of the modern environment, then when determining the content of environmental tourism, we draw attention only to the part of the environment of the person (which is called "positive") and at the same time, we forget about the other side of human development ("negative")? The various consequences of human activity are also an ecological component of society. We should review the content of traditional eco-tourism.

If we strictly take into account the content of all ecological knowledge, without giving preference to one of its parts, the essence of the traditional interpretation of environmental tourism is incomplete and one-sided. Restricting the content of an environmental tourism, as tourism only to reserved areas, more like the result of subjective interference in the theory of tourism science. We believe that the content of environmental tourism should include travel to the regions and objects that most strongly, or to some extent, have undergone qualitative changes on the part of a person.

Proceeding from the generally accepted definitions of the concept of "tourism", we offered a new interpretation of a content of ecological tourism which is based on the motivation of the tourist. Ecological tourism - temporary movement of people from their place of permanent residence to another area, in their free time, with the aim of visiting reserved and anthropogenic disturbed landscapes with negative environmental processes and severe ecological condition of the territory without having part in paid activities in the visited area. Visiting anthropogenic landscapes within the framework of the new concept of ecological tourism should take into account all possible requests of tourists and have a single purpose. The purpose of trips in ecological tourism to ecologically stressed territories is to familiarize and observe various forms and results of anthropogenic influence on nature. There are many forms and results of anthropogenic influence and changes in nature, so their definition will have a territorial character.

When substantiating the richness of the options of ecological tourism, one must rely on the level of industrial attractiveness (attractiveness). When creating routes, the educational environmental value and historical value of anthropogenic landscapes and ecological processes should be taken into account. At the same time, under industrial appeal is understood the beauty, structure, complexity, presentability, expressiveness of the ecological state of an industrial object or ecological process in the form in which it exists nowadays.

New objects of ecological tourism in the industrial regions are: enterprises, quarries and dumps, mine ditches, underground mines landscapes, main and industrial canals, drainage channels around industrial objects, settling tanks, landfills, ground contaminated with radionuclides, flood zones and salinization of lands, landscapes of "badlend" - turned into ravines and mollusks, agricultural lands, watercourses and reservoirs in places of high pollution with sewage, territories around enterprises with dust and gas, and noise pollution.

On the territory of Ukraine, the best regions where almost all known anthropogenic landscapes and negative environmental processes occur are an iron ore basin in Kryvyi Rih. Here, the best and most diverse programs of rounds with the new content of ecological tourism can be implemented. When creating tourist products in this territory have to be considered: categories of objects of the show, ecological problems and processes within their borders, the location of these phenomena in the territory. Various excursions have to become the main forms of realization of tours in new programs of ecological tourism. Here is a certain touch of the content of ecological tours with industrial tourism. The difference between ecotourism is the focus more on the review and familiarization with ecological processes and phenomena, and not only with the production technologies and products of enterprises. Thus, ecological tourism in industrial regions does not provide for the improvement of tourists, their stay in ecological hazardous areas is temporary.

In modern geography and ecology, there are two methodological approaches to the reservation of landscapes. The first one - traditional, which provides for the protection of only those objects that must be of high natural value (these are almost primary landscapes), the level of biodiversity of these objects should be significant, it is necessary that these objects represent a certain landscape regional unit (zone, subzone, province, etc.). This provision is poorly in line with the real ecological state of the landscapes of the world and Ukraine, in particular. After the appearance of a person in a geographic envelope, for the period of the twentieth century, the wilderness did not become at all, and specialists working on projects of new protected areas actually deal with anthropogenic landscapes. Therefore, this situation is the weakest place of the prevailing environmental paradigm.

The second weak point of the traditional paradigm is the provision that the creation of new protected areas should seek the least anthropogenic disturbed landscapes. But the real facts tell you something else. For example, the research of workers of Kryvyi Rih botanical garden showed that there are only 35-40 hectares of little-transformed man steppe landscapes in an area of about 30,000 km² adjacent to the city of Kryvyi Rih. There is a paradoxical situation - to find and protect what does not actually exist. The areas necessary for the creation of reserves are absent. At the same time, various types of anthropogenic landscapes are developed in a large part of the country: residential, mining, recreational, agricultural, and others. They have a different degree of anthropogenic variability. According to the post-classical methodologies that gain consumer philosophical conceptions of naturalists late XX - XX I century all man-made landscapes are inherently natural ecosystems.

From the ontological side, anthropogenic landscapes are nature, only those that arose under the influence of a special factor - a diverse human activity.

In the epistemological sense, the anthropogenic landscapes have a scientific value. Thus, mining (quarries, dumps, failures) landscapes are reclaimed, cultivated, resulting is the formation of original natural objects. For example, dumps are self-grow and landscapes on them can be restored to zonal type. Artificial woods have long become the usual element in the recreational zones and landscape regional parks. Such a fate has such water management landscapes as ponds, reservoirs, canals. The pasture landscapes of the slopes of the gullies and river valleys, if they are taken out of operation, can potentially recover to an almost original state.

At the scientific-methodological conference devoted to the humanization of geography and post-classical methodologies, (Tiutiunnykom, 1998) expressed the idea of the need of reservation of the "Red Forest" and the entire 30-kilometer Chornobyl zone as a valuable research ground for studying the laws of radionuclide migration in landscapes. About the necessity of reservation anthropologic landscapes speaks also (Denysyk, 1998, Korzhyk, 1995). A special place in the system of such reserved objects should occupy mining landscapes. If not all could be protected, at least scientific and historically valuable quarries, dumps, failures, mines with underground excavations should be taken. (Boreiko, 1998) indicates that certain natural objects have a religious (sacral) value and according to him, have to be protected also. But about such value and similar objects in the law "About Natural and Reserved Fund of Ukraine" is not mentioned. The traditional nature protection paradigm conceptually does not provide the reserve of those landscapes which can be restored rather quickly - pasturable, recreational, beligerativn, field and garden agricultural. Also it is necessary to emphasize about undoubtedly huge recreational potential of such anthropogenic landscapes (pits, dumps, failures) which can be bequeathed too.

Therefore, the situation of incomplete compliance of a traditional paradigm and the current state of the nature and opportunities of expansion of the reserved areas takes place. It allows talking about revision of the operating paradigm and determination of content and provisions of new one which absorbed the updated old and essentially new approaches to reserved business. The following could become the leading positions of a new nature protection paradigm.

1. Not only well-preserved landscapes, but also somewhat disturbed, who have the potential for self-restoration to return to almost the original state, may be reserved.

2. The anthropogenic landscapes must be reserved, but sometimes, it characterized by radical differences from the original state.

3. Mining landscapes, such as quarries, dumps, underground developments (mines), may also be subject to reserved.

4. Any anthropogenic landscapes that have ontological and epistemological value have to be reserved, ranging from mining and ending with agricultural and recreational

landscapes, should be charged with the purpose of preserving them as a universal phenomenon or for the self-renewal of primary geosystems.

5. The natural objects, which are distinguished by the sacral (in the historical aspect) value, must also be reserved.

6. The basic unit of protection should be - landscape geosystems.

7. The basis for reservation should be the idea of preserving not only biodiversity, but the reservation of landscape diversity, as only the landscape contributes to maintaining the wealth of an animal and plant world. At the same time, the difference between "natural" and anthropogenic landscapes is not accepted.

8. In order to preserve landscape diversity in the system of protected areas, each type, subtype, class, subclass, row, row and genus of landscapes - from the landscape zone to the tract - must be presented.

9. The territorial organization of the reserve must be carried out totally (Kazakov, 1998).

5. Ecotourism phenomenon of anthropogenic landscapes in the regions of an old industrial development

The total landscape heritage is based on the fact that within the boundary of certain zones (especially forest-steppe and steppe) there are no primary landscapes, and those that are anthropogenesed and weakly violated is required to be reserved. The previous can recover themselves and improve the rating of the ecological state. At the present stage of development of the nature under strict protection, all areas of such landscapes should be taken exclusively. The anthropogenic landscapes are not the exception.

In the steppes of Ukraine, all such unprotected gullies and slopes of river valleys and lagoons could be taken into such landscape reservation. Despite the diffuse character of the territorial structure, under certain conditions functioned as a whole. To do this, it is need to derive landscapes from grazing. The reserve will be granted state status. The management of total reserves is to be placed on the state regional inspections of ecological safety, and there will be no need to create new administrative institutions, states and significant investments. Recognition of a new nature protection paradigm creates prerequisites for deeper and broad view on the purposes and tasks of reserved business. Absolutely on a different way is perceived a modern nature, its content, the possibility of the inheritance of natural objects. Provisions of a new paradigm have to be comprehended not only at the scientific, but also legislative levels. Corresponding changes have to be made to the Law of Ukraine "About Natural and Reserved Fund of Ukraine".

At the present stage of development of reservation works, the protection of nature as a medium of creating the basis of the human environment is realized within the framework of the concept of the ecological network. Creation of the ecological networks in Ukraine is fixed not only at the scientific level but also at the legislative (Law of Ukraine "On the National Program for the Formation of the National Ecological Network of Ukraine for 2000-2015", adopted on September 21, 2000).

According to the above law, the ecological network means a unified territorial system, which includes areas of natural landscapes subject to special protection, and territories and objects of the nature reserve fund, spa and health-improving, recreational, water protection, field protection territories and other types objects, determined by the legislation of Ukraine. In the landscape-based interpretation, the ecological network is a functionally integrated terrestrial landscape of the central-type type, which provides the necessary conditions for the preservation of biotic and landscape diversity in general, and, in a balanced manner, fulfills other functions, in particular, the formation, resource, and economic environment (according to Farionom, Chekhniiem, 2004).

Ecological centers are the ecological centers (forests, steppe massifs, rivers, lakes), ecocorridors (beam and river network, forest bands), buffer zones (removed from the use of land around ecocenters and ecocorridors), which must be interconnected functionally and territorially. Eco-network is geographically networked structure where the primary elements of the basic act landscape complexes - facies, near the ravine, and the ravine area. In the spatial format of the ecological network it is expedient to divide the national (within the country), regional (for example, within the regions) and local (administrative region, smaller region region, etc.).

However, in this law of Ukraine, when selecting especially ecocenters and ecocorridors - natural nuclei, nevertheless, it is suggested to be guided by the indicator the slightest variability of the landscapes. However, at the same time, it is asked, where is the primary nature, where to look it for. For example, Pashchenko V.M. (2004) considering the landscape potential of the steppe zone of Ukraine for the development of the state ecological network emphasizes that due to the intensive economic development of the territory, only the ramparts and areas of river valleys, slope slopes, where vegetation and soils remained in the least disturbed form can act as steppe ecological centers. Eco-corridors - valley-beam network. Not steppe-biotic elements are in more comfortable conditions. Here for artificial ecosystems suitable artificial forests, reservoirs, forest park area of cities, ecocorridors can be created on the basis of steppe forest bands, water channels, and year. Such an ecosystem seems too scattered and aimed at maintaining not only the steppes, but also not peculiar - forest landscapes.

Even more problematic is the situation of the creation of regional ecosystems at the regional level within the old industrialized areas, a striking example of which is the Kryvyi Rih basin, the Donetsk basin, the Nikopol basin, and others. When choosing natural nuclei, we must deviate from the "natural", recognize and virtually prove the possibility of taking ecological centers and ecocorridors as natural nuclei of some man-made landscapes - dumps, dip areas, quarries, which are traditionally considered to be strongly disturbed (Shyshchenko, 1983). After all, for industrial regions, such landscape formations are ordinary, significant in size, almost intact and extremely valuable.

When substantiating anthropogenic landscapes for elements of local and regional ecological networks, we must proceed not so much from the standpoint of the functions of ecocenters and eco-corridors (they will be similar to natural geosystems), but from the point of view of the value of failures and quarrying and decommissioning complexes. Axiological indicators can be - natural (the value of the landscape as an object of nature is established), as well as historical, cultural, and technological.

Considering the problems of maintaining and expanding the maintenance of the reserve area in mining areas in order to create a regional-local ecological network, on the example of the Kryvyi Rih basin, we have developed a program for studying the possibilities of protecting local anthropogenic landscapes and outlined a draft of a new territorial structure of the nature reserve fund. For Kryvyi Rih, the program includes the following directions:

1. Searching for a reserving capture quarries; the quarry must necessarily be worked out and thrown, be in a stage of self-development; the desirable substrate is not the variety of quarries - iron ore, granite, sand, limestone, clay, as well as significant age (50-100 years); the first two types of quarries should be tiered and relatively deep (50-80 m), have a representative area - up to several dozen hectares; on the walls of quarries there must be a debris of rocks; careers can be classified as ecocenter;

2. Searching for a reserving capture burial dumps; the dumps should meet the following requirements - completely spilled, diversity of dumps in age (up to 100 g and more), morphology, size, substrate, complexity of structure, degree of self-growth and reclamation, etc.; dumps represent the best and most diverse object for ecocenters;

3. Searching for a reserving capture anthropogenized areas of river valleys; similar objects can be recommended as ecocorridors;

4. Searching for a reserving capture the failures of underground mines; the failed landscapes of Kryvbass are a unique technological phenomenon for Ukraine; the main tracts are the zone of displacement and proper failure formations (funnels, basins, canyons with depths up to 100-150 m); most of the failure zones are covered up, but some are secondary almost not converted; failure zones - typical formations, as objects under ecocenters;

5. Artificial forest and forest bands. The first ones can be recommended as ecocenters, secondly, as ecocorridors, and the forest bands will have the role of a connector of man-made and conditionally natural (straw and valley-steppe) ecocenters.

Conclusions.

Tourism is a multidimensional phenomenon. In its theoretical philosophical comprehension, elements of art, ethics and aesthetics must be combined. "The philosophy of tourism should be as interesting and meaningful as the philosophy of the book "(Popovych). Tourism development is an important element of the overall strategy of socio-economic and spiritual progress of the country, a strategy designed to ensure the sustainable development of society.

Since the concept of sustainable development refers not only to economic growth, social progress and environmental protection, it has broad humanistic, ethical and cultural dimensions. The philosophy of tourism in theory motivates the social, moral aspirations of tourism, asserts its humanistic mission - to promote the spiritual improvement of society, the development of personality. Recognition of a new environmental approach creates prerequisites for a deeper and broader view of the goal and task of creating an ecological network at the regional and local levels. Absolutely different perceptions of modern nature, its content, the possibility of the inheritance of natural objects. The provisions of the new approach should be understood not only at the scientific level but also at the legislative level. The Law "On the National Program for the Formation of the National Ecological Network of Ukraine for 2000-2015" should be amended accordingly.

References.

Bauman, Z. (2000). From pilgrimage to tourism. *Sotsiologicheskiy zhurna,*5 [in Russian]

Dmytruk, O. Yu. (2004). Ecological tourism: modern concepts of management and marketing. Navc*halnyi posibnyk.* K: Altpres. [in Ukrainian].

Fedorchenko V.K. (2001). Tourism and People's Diplomacy. *Filosofiia i kulturolohiia turyzmu.* [in Ukrainian].

Gumilev, L. (1993). Ethnosphere: the history of people and the history of nature.

Holubets, M. (1991). Environmemtal science and culture: to the question of structural and functional relationships. Oikumena,1[in Ukrainian].

Horak, H.I. (2002). Existential nature of human being in natural measurements and natural recreational tourism opportunities. *Filosofiia turyzmu* [in Ukrainian]..

Horskyi, V.S. (2002). Travelling as a cultural phenomenon. *Vseukrainskyi kruhlyi stil «Filosofiia turyzmu* [in Ukrainian].

Kazakov, V.L. (2000). Anthropogenic landscapes of Kryvbas. *Riznomanittia landshaftnykh kompleksiv Ukrainy ta shliakhy yikh ratsionalnoho vykorystannia i zberezhennia: metodolohichni i prykladni aspekty.*41-46 [in Ukrainian].

Kazakov, V.L. (2005). Pits. Dumps. Failures. *Kraieznavstvo. Heohrafiia. Turyzm.*45 (16-23) [in Ukrainian].

Kazakova, T.A. (2004). Features of conducting reserved matter in mining and industrial regions (on the example of Kryvbas). *Ukraina: heohrafichni problemy staloho rozvytku,* 2 (322-326) [in Ukrainian].

Kazakova, T.A. (2007). Content of technogenic tourism. *Shevchenkivska vesna: Proceedings of the 5th International Scientific and Practical Conference.*177-180 (p. 31). Kyiv: KNEU [in Ukrainian].

Kazakova, T.A. (2008). Classification of types of technogenic tourism. *Heohrafiia v informatsiinomu suspilstvi.*4, 207-209 [in Ukrainian].

Kazakova T. (2009). Prior to the development of the concept of ecological tourism. *Ekolohiia – shliakhy harmonizatsii vidnosyn pryrody ta suspilstva.* (76-78). Uman [in Ukrainian].

Kazakova, T.A. (2010). Ecological tourism in industrial regions. *Turystychna industriia: suchasnyi stan ta priorytety rozvytku: Proceedings of the 4th International Scientific and Practical Conference.* 5 (281-287). Luhansk [in Ukrainian].

Kazakova, T.A., S.P., Sonko. (2015). Post-industrial trends of formation of territorial structure of the old industrial region of Kryvbas (on the example of development of technogenic tourism). *Stratehichni perspektyvy turystychnoi ta hotelno-restorannoi industrii v Ukraini: teoriia, praktyka ta innovatsii rozvytku: materialy Vseukrainskoi naukovo-praktychnoi internet-konferentsii.* (pp. 23-25). – Uman. [in Ukrainian]

Konishcheva, I.I. (Ed.) (1992). Resource-saving: Ecological and economic aspects. [in Russian].

Koval, V.; Petrashevska, A.; Popova, O.; Mikhno, I.; & Gaska, K. (2019). Methodology of ecodiagnostics on the example of rural areas. Architecture Civil Engineering Environment, 12(1), 139-144. doi: 10.21307/ACEE-2019-013

Krysachenko V.S., Khylko, M.I. (2002). Environmental science. Culture. Policy: Conceptual foundations of modern development. [in Ukrainian].

Krysachenko, V.S. (1996). Ecological Culture: Theory and Practice [in Ukrainian].

Kyselov, M.M. (2002). Tourism and natural science - philosophic and world outlook aspect. *Vseukrainskyi kruhlyi stil «Filosofiia turyzmu»* [in Ukrainian].

Kyzyma, V.V. (2007). Society and Life. K.: Parapan [in Russian].

Lektorskiy, V.A. (1980). Subject, object. Knowledge. [in Russian].

Lukianets, V.S, Kravchenko, O.M., Ozadovska, L.V. (2000). Modern scientific discourse: updating methodological culture. [in Ukrainian].

Malakhov,V.A. (2002). Moral and existential dimension of tourism. *Vseukrainskyi kruhlyi stil «Filosofiia turyzmu».* [in Ukrainian].

Pazenko, V.S. (Ed.). (2005). Philosophical essays on tourism. [in Ukrainian].

Serzh Perro, Zhan Mishel Oerner. (2001). Necessity of "tourismology". *Naukovi zapysky KITEP.* 1, [in Ukrainian].

Sonko, S.P. (2003). Spatial development of socio-natural systems: the path to a new paradigm. Kyiv: Nika Tsentr [in Ukrainian].

Sonko, S.P. (2007). Spatial structure of a noosphere and the place of objects of industrial heritage in it. *Heohrafichni doslidzhennia Kryvbasu.* 2, 44-47 [in Ukrainian].

Sonko, S.P. (2013). Analysis of methodological approaches to the formation of the national ecological network. *Aktualni problem lisovoho ta sadovo-parkovoho hospodarstva: naukovyi visnyk NLTU Ukrainy.*23.5, 68-72 [in Ukrainian].

Tarasenko, N.F. (1985). Nature, technology, culture. [in Russian].

Tovstoukhov, A. V., Khylko, M. I. (2001). Ecologically Safe Development: Searching for Strategies. [in Ukrainian].

Ziaziun, I.A. (1999). Philosophy of Tourismology. Tourism on the threshold of the XXI century: education, culture, environmental science. [in Ukrainian].

Vasyl Gogol
Candidate of Sciences in Theology, Associate Professor,
Private Higher Education Institution «Ivano-Frankivsk Academy Ivana Zolotoustoho»,
Ivano-Frankivsk, Ukraine

UGCC PRIESTLY TRAININGS UNDER CANON LAW DURING THE PERIOD OF 1940-2013

Abstract. *The monograph refers about how the priesthood was raised during the period of persecution of the Ukrainian Greek Catholic Church and in the times of its becoming. In order to understand the development of education and the education of clergy during the Second World War, underground and independent Ukraine needs a thorough analysis of canon law in this area - this is stated in this paper. The article is of interest to a deeper studying and analysing of the issues of the education of clergy. Much attention was paid to the outstanding figures of the Church, through which both spiritual and intellectual values were transmitted. The main idea of this work is to highlight the issues of the education of clergy in terms of church law. The monograph is of interest to historians, who study the history of Christianity, especially the role of the priesthood in the church community, is also interesting for canonists, theologians and catechists.*

JEL Classification: D83

Introduction.

Training and education of the clergy in the Ukrainian Greek Catholic Church is undergoing a significant transformation in the early twenty-first century. Proclamation of "new evangelization" policy of the Ukrainian society and the search for answers to the new challenges have arisen the need for professional training of the younger generation of theologians, scholars, priests and other professionals needed by the Church. Legislation in the field of education and training of clergy is an important element in the implementation of the Church's mission. A number of legal documents (decrees of the Second Vatican Council, CCEO, decisions of the Synods of the UGCC, Council's decrees, ordinances of MajorArchbishops, CCEO norms of particular law, concepts, etc.) govern the scope for quality education and comprehensive formation of priests. The corresponding formation of the clergy has always been important in the preaching of the Gospel, even in times of persecution. The UGCC resumed its activity and proved insurmountable nature of the Church. In the first decade of the twenty-first century the issue of the ratio of education and training of the UGCC with the state educational programs becomes very important.

The object of study in this work is ecclesiastical legislation in the field of education of priests during the years of 1946-2013. The subject of the research is educational activities and theological legacy of Father Jeremiah Lomnica, OSBM, Bishop Gregory Khomyshyn, Metropolitan Andrey Sheptytskiy, Patriarch Josyf Slipyi; Decrees of Lviv Councils led by Andrew Sheptytskiy (the 40s of the twentieth century), decision of Lviv pseudo synod of 1946; some legislative acts of the Soviet regime against the Church; documents of the Second Vatican Council; CCEO; decision of the Synod of the UGCC in exile; decisions of the Synods and Councils of UGCC (including Bishops') in independent Ukraine; some provisions of the UGCC particular law; training and education concepts.

The purpose of this work is to analyze the ecclesiastical legislation in the field of education and educational UGCC and, in particular, comparison and identification of common and distinctive features of canon law and educational concepts for theological schools of UGCC in the underground and after the underground period.

Research of the given topic will be conducted using the systematic and analytical method, since one of the objectives is to study the decisions of the Synod of the UGCC, decisions of the Councils, also of certain rules of CCEO and particular law of UGCC etc. It is also necessary to use the method of historicism to comprehensively analyze the conditions and circumstances of the adoption of certain legislative acts, historical features and consecution of systematization of canon law in the field of education and training of priests of the UGCC.

The bibliography of this work consists of the official documents of the Catholic Church local documents of UGCC and critical literature in different periods of its activity. Official documents of the Catholic Church which were studied include the following: Code of Canons of the Eastern Churches (Ukrainian edition, referring to the source), Documents of the Second Vatican Council. Also UGCC Code of Canons of the Particular Law of the UGCC was used, whose rules were printed in the Major Archbishop's Herald of the UGCC in 2001; Materials of Patriarchal Council of the years of 1996 and 1998; decisions and resolutions of the Synods of Bishops from 1989 till 2012; the text of the Concept of theological education.

It is necessary lay emphasis on the group of documents written by Gregory Khomyshyn, Andrey Sheptytskyi and Josyf Slipyj whose scientific works, Pastoral Letters, etc. were used for writing this paper.

To illustrate the course of events during the UGCC underground some information was taken from archival documents of the State Archives of Ivano-Frankivsk region and published collections of documents. They are evidence of the history of all events during the catacomb period of the UGCC, in Ivano-Frankivsk region in particular; the source information also characterizes the activity of underground priests in certain settlements of Lviv, Ternopil and Ivano-Frankivsk regions, fighting for the legalization of the church, daily life and repression in relation to leaders of the UGCCB. Among the cases of prosecution of priests the excerpt from the interrogation report of Bishop Gregory Khomyshyn was found.

Regarding the critical literature, works of Ukrainian and foreign scholars, historians and canonists were used, namely: I. Andrukhiv, B. Botsyurkiv, R. Delyatynskyi, M. Bendyk, P. Kahuy, O. Kaskiv, V. Marchuk, I. Monchak, S. Mudry, V. Serhiychuk, D. Shymchiy and others. Studies of these authors at some stage covered various aspects of the issues of our work: the history of the UGCC catacomb period of its existence, after underground period, decisions and resolutions of the Councils and Synods of the UGCC in the educational sphere, forming the Concept of theological education etc.

1. Priestly trainings during the second world war

1.1 Ordinances of Lviv church councils, headed by Metropolitan Andrey Sheptytskyi (1940-1943)

With the outbreak of the World War education and science of the Church suffered considerable damage as a result of the arrival of the Bolsheviks. That was the reason why major part of the society saw the Germans as liberators. However, over time it became clear that their policy is no different from their predecessors, although must be said that at the beginning the Germans allowed theological education for the Church. In August 1941 the Greek Catholic Minor Seminary, Greek Catholic Theological Seminary and Greek Catholic Theological Academy resumed their work under the initiative of Josyf Slipyj. At that time 70 students were studying there. Students took the sacrament of penance and the day after September 20, 1941 their studying began. As the German authorities did not allow higher education institutions, the seminary operated. Despite the war years, education of the Seminary developed rapidly. But in 1943, all the property of the seminary was taken by the German army. With the second arrival of Soviet troops during the 1944/1945 academic year Academy premises were used for hospital (Kashchak, 2007).

During the War Academy was unable to provide its students with academic degrees. The Polish government opposed the accreditation of Academy, the Apostolic See could not approve granting of degrees during wartime. The students were taught in both the seminary – where they were trained for priesthood-and at the Academy, which focused on their intellectual formation. In June 1942 there were 27 graduates (of which 12 were seminarians from the archdiocese of Lviv, 7 – Stanislav, 2 - from Przemysl, 4 - unknown). In 1943, 17 students completed the school year. There is no data on specialists in 1944 and 1945. In 1945 the Seminary and the Academy were closed (Kashchak, 2007).

When Metropolitan Sheptytskiy realized that Bolsheviks were not going to arrest him, he decided to convene the Archdiocesan Council. With his pastoral "to the clergy and the faithful" from April 13, 1940 the Metropolitan invited all the priests to the Council and asked to provide their comments, analyzing decisions of Zamoyski Synod 1720 and Synod of Lviv in 1891, which reflected almost all aspects of life of the Church (Zinkevych, Lonchyna, 1985).

The original intention of Metropolitan Andrey was to commence the Council at the end of March 1940, but then for various reasons he had to postpone it until April 19, 1940. The Council lasted for almost a year. All the priests of Lviv archdiocese of were invited to Thursday's Council assembly. The priests who lived in Lviv and those who could arrive from the province would gladly come to Lviv on Thursday to participate in the Council (Zinkevych, Lonchyna, 1985). The Council issued 31 Decrees and many rules that are an expression of the undivided will and undivided decision of all the clergy and have theocentric nature, which means that God is the highest purpose and focus of all things which can be discussed in Christianity. Beside the principle of primacy of God, Council's decisions regarded only the duty of the Christian prayer and normalized as it was then

possible the life according to the evangelical councils., As for the human needs and difficulties of keeping the clergy only two quotations from the Gospel were mentioned: "Seek first the kingdom of God" and "Receive as a gift, give as a gift" (Kovba, 2003). Although the decrees of the Council and the rules are mainly concerned with the inner spiritual life of priestly and pastoral work, one can also find many important instructions for pastoral activity: for example, a rule with which the Council assigns the preachers to pray intensely for the success of preaching and those that would listen. At the time of the first Synod of Lviv Metropolitan Andrei recalled that single title of retention of priests is zealous and conscientious fulfillment of all obligations of both the parish and the dean. Council also proclaimed a general basis - to refrain from politics, but to preach the Gospel and lead all people to salvation in complete love for their people and all the neighbors (Zinkevych, Lonchyna, 1985).

As is evident from his appeal "To the Clergy and the Faithful" of October 31, 1940, the Metropolitan was very distressed with young people and asked for prayers for them. He also stated that the mere fact that the Council was held, was of extreme importance taking into account the wartime. The acts, decrees and regulations of the Lviv Archeparchial Council 1940 were prepared for publication as a separate book, but were not published because of the lack of paper. In general, the "Rules" were about the Catholic faith, the work on the Unification of Churches, the work at subsidiary churches, the conditions for successful inlightening with the ray of faith in the parish, the duties to the Almighty, the Divine Wisdom cult, the cult of the Holy Spirit , maintenance of the clergy; those living under the Gospel councils; prayers of the Christian family, the cult of Christ's Love, the cult of Christ in his symbols, etc. (Zinkevych, Lonchyna, 1985).

In 1941 the second Archeparchial Council was held, but its acts, decrees and regulations did not come out as separate book, there were only major rules and decrees of the Council in "Lviv Archeparchial Gazette" namely about. the cult of the Immaculate Conception of the Blessed Virgin Mary, the Law, dogmatic basis of morality, the Ten Commandments, the first three commandments of God, the worship of Saints, the iconography, the fourth commandment of God, obedience for the Church, the phrase "beyond the universal Church there is no salvation" and the ceremonies (Zinkevych, Lonchyna, 1985). During the German occupation of Ukraine in 1941-1944 religious situation of the Church did not improve much. Nevertheless Metropolitan Andrey conducted the third Archeparchial Council in 1942 after serving 28 sessions, and prepared for publication its "Acts, Ordinances and Regulations," but because of the lack of paper ha was not able to publish it. This Archeparchial Council appealed to the clergy in the 34 rules with the presentation of the main principles of Christian education and a call to introduce these principles into practice, always and everywhere, wherever possible (Zinkevych, Lonchyna, 1985).

There is a link between the decrees and rules of the two Councils under Bolshevik occupation and one under the German occupation that shows the gradual progress forward in deepening the teaching of the Gospel, which is the basis of Christian life and work. The first

Council in 1940 was an expression of the fundamental truths of Christianity that Almighty God owns not only the first but also an exceptional place in the life and work of a human being. At the Council in 1941 Metropolitan Andrey with members of the Council proceeded to work on God's law and introduced the first three commandments. At the Council in 1942 some issues of the Fourth Commandment were discussed. The fourth Archeparchial Council in 1943 took up theological and pastoral study of the Fifth Commandment. Members of the Councils tried hard in the spirit of Christian repentance, to know and try to fix all the faults of the Christian life of the faithful and to improve their pastoral work.

In 1942 (from 9 to 15 June) the Second Council of Exarchs was held, with the blessing of Metropolitan Andrey as a delegate of the Holy See, led Bishop Mykola Charnetsky. The content of some of its decrees is the following: definition of the boundaries of the Exarchate, the baptism of adults, the sacrament of penance, the indissolubility of marriage, the conditions of admission to the monastery, the prohibition of mixing rites (Zinkevych, Lonchyna, 1985). Named by Metropolitan Andrey and approved by the Apostolic See Exarchs tried to perform their activities. The only Exarch who could immediately use his jurisdiction was Exarch of Belarus - father. Anthony Nyemantsevych. Exarch of Volyn, Kholmshyna, Pidliashia and Polissia Bishop Mykola Charnetsyi could not cross the border, separating Galicia and Volyn. There was a similar situation with Exarch of Great Russia – Fr. Clement Sheptytskyi.

Exarch of Great Ukraine - Archbishop Josyf Slipyj, with his letter of 12 April 1942 informed Cardinal E. Tisseran on the situation in Exarchate of Great Ukraine, mentioning that the conditions in Ukraine were very difficult, but despite this fact two priests had made it to Kyiv, and there they established and legalized Byzantine Rite parish. It was difficult to send the priests to other cities of Ukraine, but the preparation had already been done (Zinkevych, Lonchyna, 1985). Thus, during the troubled period of the Second World War, the Ukrainian Greek Catholic Church was trying to educate their clergy with the belief that they would be able to rebuild the church and society. Despite repeated destruction and persecution by the authorities Galician seminaries trained their priests to be real leaders, preachers and followers, opponents of communism. Decrees of Lviv councils convened by Metropolitan Andrey Sheptytskyi contained important rules for the preparation of Priestly Formation. Regarding the Priestly Formation, the disinterestedness of action a priest's actions, unceasing prayer, abstinence from policy were proclaimed, also the key principles of Christian education were identified.

2. Priestly trainings during the underground resistance

2.1. Education and trainings of clergy in the period of the UGCC being underground (1946-1989)

The Bolshevik authorities hoped that the UGCC would never reborn, but history decided otherwise. Restoration of the UGCC was made possible through selfless activity of clergy, monkery and faithful of the underground and also due to the attempts of the clergy in the exile to draw attention of the Apostolic See and the international community to the problems of UGCC.

The recently discovered secret archives now allow tracing the chronicle of the tragedy of the UGCC – from the arrests of holy fathers to prosecution of anyone who remained faithful to the faith of their fathers. According to the documents there were a great number of such followers. Even in their sufferings they firmly believed that a time would come when their church would come out of the underground and its most worthy representative would return to his native land (Serhiychuk, 2001).

With the arrival of the Soviet regime it became apparent to the Metropolitan and the Bishops of the UGCC that their arrest was a matter of short time. Therefore, they were quick to appoint their successors in case of arrest. In particular, Metropolitan Joseph appointed administrator of the Lviv archdiocese bishops Mykyta Budko and Mykola Charnetsky, Archimandrite Clement Sheptytskyi and vice-provincial of the Redemptorist Fathers Joseph de Voht (Botsiurkiv, 2005). And Stanislavsky Bishop H. Khomyshyn appointed Vicar General of the Diocese Fr. Gregory (Volodymyr) Balahurak who was the abbot of Basilian monastery, also rector of the Stanislav seminary, Dr. of theology Aksentiy Boychuk, Frs. Stephen Veprovych and Simeon Lukach were secretly consecrated as Bishops (Andruchiv, Lysenko, Pylypiv, 2010)

During April 11-12, the NKVD arrested all the bishops of the UGCC (except Bishop J. Kotsylovsky), dozens of the most influential priests and church core group. Major Archbishop H.Khomyshyn was arrested and imprisoned. Special attention should be paid to the language of the transcript of interrogation of G. Khomyshyn, despite his high intellectual level, he was denied the right to his word. The protocols were written in the language of the interrogation officer with relevant criminal jargon, which was never used by the Bishop in his lifetime. The language of the protocols also shows that the interrogation took place in an atmosphere of physical and psychological terror on the prisoner (*Arkhivno-slidcha sprava po obvynuvachennyu Balahuraka Volodymyra Illicha, Bakhtalovs'koho Romana Danylovycha i Sov'yaka Yaroslava Mykhaylovycha)*

Anticipating the possible persecution the Greek Catholic hierarchy on the eve of their arrest published secret guidelines for clergy and monks on their activities under the conditions of persecution (Metropolitan Josyf Slipyj published a brochure, "The Church in the Catacombs" (Zinkevych, Lonchyna, 1985). Pastoral message with a call to be persistent in the faith (Sheptyts'kyy, 2009), and Bishop Gregory Khomyshyn, for example, gave the OSBM sisters guidance of liberation from vows of obedience and poverty, keeping the chastity vow). Looking at the daily lives of the clergy, it should be noted that the conditions, in which they found themselves without willing to accept the requirements of the new government, were really tragic. Some priests were destroyed physically, some could not stand the harassment and converted to orthodoxy and the rest acted secretly.

Researcher P. Kahuy in his article on the activities of the UGCC in 1946 - 1990 presents the following data: "in 1950 losses of the UGCC contained all 5 dioceses and 2-administratury vizytatury were eliminated. Metropolitan J. Slipyj was sentenced to exile. Of the 10 bishops - one killed, 9 arrested, convicted, sentenced to prison, 50 percent of the

diocesan pastoral clergy suspended from work, passed in the underground Church, 35 percent were forced to join the Orthodox Church with the usage of different methods, 15 percent (300 priests) fled, emigrated. All monkhood was partly imprisoned, dispersed or moved to work in the underground. None of the 500 students of theology was able to finish their studies, they were dispersed" (Kahuy, Sydor, 2009).

But despite this, every Greek Catholic priest in the underground continued to perform their mission as priest, educator, and custodian of the national essence of the Ukrainians. In the 1950's - early 60's the whole network of Greek Catholic institutions acted secretly in Galicia: the seminary and "home" churches and monasteries that were located mainly in the private homes the faithful. In 1960, Lviv authorities found three catacomb nunneries: Sisters Servants of Mary Immaculate (Superior sister Valeria, Mary Dubach), the Order of St. Vikentiy and Basilian Sisters. Pastoral work in the 1960s was conducted by dozens if not hundreds of Greek Catholic priests both of the older generation (consecrated before 1946) and the younger ones (Kahuy, Sydor, 2009).

In the 60's attack on the Greek Catholic clergy increased. In particular, in July 1962 in Stanislav (from 1962 - Ivano-Frankivsk) Ivan Slezyuk arrested (1896–1973) and Semeon Lukach (1893–1964), who, according to the commissioner, "headed illegal Uniate episcopate". In early April 1945 His Beatitude Ivan Slezyuk received Episcopal authority from Major Archbishop G. Khomyshyn in the event of the arrest of the latter. Fr. I. Slezyuk was arrested for the first time on June 2, 1945 for "anti-Soviet activity" and served his sentence in Vorkuta detention camps. Following his release from prison on November 15, 1954, he returned to Stanislav where he carried out the administration of Stanislav diocese for nearly eight years. His active pastoral activity was the cause of the second arrest in July 1962 (Kahuy, Sydor, 2009).

His Beatitude Semeon Lukach (in 1919 finished Stanislav seminary and was ordained a priest by G. Khomyshyn) was arrested by the MGB for the first time for illegal pastoral work and as a "supporter of the Vatican" on October 26, 1949 in Nadvirna town. The investigators had received information that he was an illegal underground UGCC bishop. However, the investigation did not manage to gain a testimony of his Episcopal authority. (Most likely, he received Episcopal authority from G. Khomyshyn at the same time as I. Slezyuk), therefore on February 2, 1950 he was sentenced to 10 years (*Arkhivno-slidcha sprava po obvynuvachennyu Lukacha Semena Mykhaylovycha).* After serving five years in the detention camps of Krasnoyarsk region he was early released on February 11, 1955. Returning to his native Starunia, he joined the ranks of the Catacomb Ukrainian Greek Catholic Church for what he was arrested again in July 1962.

At the end of 1965 the Directorate on Religious Affairs (DRA) was formed at the Council of Ministers of the USSR and the repressions intensified. Also adopted a number of documents which provided penalties for violation of legislation on religious cults were adopted. Penalties were determined by the court and included imprisonment from three to five years, exile for the same period with confiscation of property or without it, or

correctional labor up to one year (*Postanovlenyya y reshenyya partyynыkh y sovetskykh orhanov otnosyashchykhsya k deyatel'nosty upolnomochennoho Soveta na mestakh*) On the territory of Ivano-Frankivsk the members of the movement for the legalization of the UGCC grouped around Bishops P. Vasylyk and S. Dmyterko (*Dokumenty (informatsiyi, dovidky, spysky) pro nayavnist' ta diyal'nist' uniativ, pokutnykiv, buvshykh monakhiv i monakhyn)*. Across Galicia priests gathered people at the church for the common worship and prayer.

Despite the brutal persecution the church continued to live underground through carefully developed system of secret seminaries, monasteries, parishes and youth groups until it was legalized December 1, 1989.

Major Archbishop V. Semeniuk recalls “I have realized that they are most afraid of young priests, for they are the future of the church. So I have decided: God help me to try to look for such candidate boys to educate as many young priests as possible. And our underground seminary has trained 16 priests …” This activity was the main aim of the priestly mission of the Greek Catholic clergy (Ferents, Svatko, 2012).

This is how Bishop P. Vasylyk remembered those events in his interview (written by the employees of the Institute of History of the Church and the Ukrainian Catholic University and the students during the seminar "Living History of UGCC underground"), "I kept claiming that legalization of the Church begins with each official service that we hold, so no need to tell the KGB, "I did not hold the service ". You did. Just do not say where, if they do not know so do not tell them where you hold the service so they wouldn’t come after people. But we do hold services. People want their Church, their rites and we also demand that that is why we hold services ... I have legalized the church with the first wave of my pastoral work, since the diaconate I have given testimony that the Church exists …" (Vasylyk, 2004). For example, it was discovered that Greek Catholic monasteries and seminaries, courses for training monks and priests worked illegally in Ivano-Frankivsk, Kolomyia and Kalush. In particular, in 1982-1983 9 priests were ordained and 14 nuns were taken in monastic congregation. And that's just officially identified. The "black list" of the authorized agent as of June 15, 1983 listed 47 priests and 91 nuns (F. R-388. Opys № 2, 1944-2007)

The main feature of education in the underground period was an example of priests and of monks and nuns. In the underground vocation to the religious life developed on the basis of internal religious experience: it can be said that a common feature of all those who came to the underground monastery, was the desire to "serve God" under the conditions of persecution (Botsyurkiv, 1998). The first and important step in the formation of a vocation to the monastic life was a religious upbringing in the family. Thus, Fr. Theodosius Maikovych OSBM, describing his path to the priesthood and monasticism recalled: "Such early Christian education .. started with my parents because after the hard work on the ground, on the collective farm, they kneeled to prayer, as well as in the morning as the day started …Their personal example urged me not to rebel, be humble and kneel to prayer and pray…I owe my father and mother, because now I am a priest and I can now help others in their spiritual progress" (Ferents, Svatko, 2012).

Also often despite strong atheistic propaganda among the population, especially among pupils and students, the lack of religious literature, young people reflected upon the meaning of life, looking for answers to questions of a religious nature (Botsyurkiv, 1998). Bishop Mykhail Sabryha CSSR talking about forming his vocation to monastic life, recalled the death of his classmate that really affected him, and it was then that he first thought very seriously about the meaning of human existence. Later, encountering underground Bishop Velychkovsky, received from him a blessing to join the Redemptorist monastery in Lviv Lisna Street. This meeting was preceded by a confession to another very devout and charismatic priest - Fr. Yevstahiy Smal, to whom he was introduced by a friend of his . We can say that the spiritual leaders of the Church in the catacombs attracted a new generation of candidates to the monastery with their own example and sacrifice (Interv'yu z vladykoyu Mykhayilom Sabryhoyu, Retrieved from http://www.tze.org.ua/jeparhija/jepyskop/57.html.) A representative of Studite Order, Fr. Sevastyan Dmytrukh, had a similar situation in finding his vocation. He was able to communicate with hieromonk-studite Vasyl Voronovskyy and witness the example of devotion to Christ's Church from the former rectory Fr.Bohdan Seneta, of Dobriany village, Horodotskyi district who was serving a sentence of 25 years for not willing to "reunite" with the ROC (Studiys'ke chernetstvo. Retrieved March 28, 2019), His desire to become a monk came as a result of the decision to become an unmarried priest.

It is interesting that the decision to become a priest in the Catacomb UGCC also led to monasticism Fr. Alexander Prylip, who was Fr. Sevastyan Dmytrukh's confrere. Some of his friends introduced him to sister Yulita Pokhudai, (studite), who gave him some religious literature, and when he spoke of the desire to learn in an underground seminary, she recommended to meet Major Archbishop Yulian Voronovskyi. For example, Fr. Mykola Kuts CSSR stated that he first wanted to be a priest and for a long time hesitated in choosing between Basilians and Redemptorists, but through a series of circumstances (he witnessed the rise of differences among the Greek Catholic underground clergy in ceremonial and other issues) went to the CSSR (Ferents, Svatko, 2012).

Even as a layman, Fr. Kuts began to reflect on the importance of working with young people, because, in his view, only then the Church could have a future. And when he became a priest in 1975, young people began to unite around him and later 10 of them became priests, including Redemptorists Major Archbishop Yaroslavl Pryriz, Fr. Mikhail Voloshyn, Fr. Petro Mirchuk and others. Roman Catholic cathedral in Lviv became an important place for "finding" candidates for the priesthood and the monasticism, where the Greek Catholic nuns and devout women "took a closer look" at the young parishioners (most of whom were descended from Ukrainian and Greek Catholic background) often present at religious services and then offered them to consecrate themselves to serving the UGCC. For example, Fr. Methodius Kostyuk (Studites) used to come to church almost every day and due to this fact he was noticed by a nun and a laywoman Catherine Solotvynska who offered him to join the underground seminary and monastery (Ferents, Svatko, 2012).

It was also an interesting fact that sometimes candidate- priests volunteered to go to the monastery. An example of it is Fr. Vitaliy Dutkevych, who had priestly training and in 1975 was ordained by Archbishop Volodymyr Sternyuk. Father Vitaly made perpetual vows in 1988 into the hands of Fr. Yeronim Tymchuk OSBM. Also Fr. Marian Farmiga, who until 1939 was a chaplain to Basilian Sisters in Pidmykhajlivci and Fr. Matei Havryliv, who received training in Leningrad Theological Seminary and Academy came to Basilian Fathers. Lay prayer groups, so-called "Third Order", which were mainly organized by Basilian priests or Redemptorists, had an important impact on the choice of the monastic life under the conditions of persecution. For example, a major influence on the choice of monasticism in the life of sister Gerarda Krupa had her mother Anastasia Krupa and a lay woman Nadiya Rogulya, who were active members of the Third Order.

The desire to live a community life that made monastic lifestyle different from ordinary unmarried priesthood was rather important for candidates in making their choice. However, conditions of the underground impose some corrections. Due to the risk of arrests and repressions, priests limited their communication to the minimum necessary, that is why usually the candidate who passed novitiate and later stages of religious training - up to perpetual vows, often was limited to a closer communion with his predominant guide or even after joining the monastery continued to live at home with his family. For example, sister Yoanna Ovsianyk OSBM during her candidacy and novitiate only personally met with. Irina Yanovych, who at that time was also Provincial Superior and Master of novices. In friaries monastic formation mostly went along with seminary training, sometimes superiors even forced the brothers to learn to become priests, as it was with Fr. Anthony Masuk OSBM, and convinced them that education was really necessary (Ferents, Svatko, 2012).

After the liquidation of the Church in 1946, the Greek-Catholics managed not only just survive, but above all they managed to organize a church structure under the conditions of repression by the Soviet authorities. Underground monasteries, which continued their active work, in particular on finding and forming new vocations among young people, were an important part of the Catacomb Church. Motives for entry into the monastic community among the "Soviet boys and girls" were different, but in general most this life choice was affected by religious education in the family, contacts with the underground Greek Catholic environment, finding answers in matters of religious self-determination, personal piety, etc. Finally, it should be noted that entry into the monastery under such circumstances was a clearly heroic step, because it did not bode any material achievements, career development or human glory. Training of future priests was of individual character in the religious communities and in so called "underground seminaries" in various areas, including: Zymna voda town near Lviv (from 1956, Bishop M. Charnetskyi, Bishop P. Kozak, Provincial Philemon Kurchaba for Redemptorists), Dora village in Ivano-Frankivsk region (from 1968, Fr. M. Kosylo), Ternopil city (from the late 1970s, Fr. V. Semeniuk, pupil of Fr.Kosylo), Ivano-Frankivsk city (from the 1980s, Bishop P. Vasylyk), Borzhavske village, Zakarpattia region (from the early 1980s., Fr. Ivan Marhitych), Sambir town (from the 1980s, Fr.M.

Kuts CSSR), Drohobych town (from the late 1980s, Fr. M. Bendyk) and Lviv city (Bishop V. Sterniuk, Fr. B. Bilynskyi and others) (Hudzyak, Turiy & Hurkina, 2001).

In most cases training lasted for a long time and was individual. An older and more experienced priest had one or more candidates as his pupils and provided them with pre-war books, dictated translations from Latin or other languages and at the same time complemented their general education. Individual approach to learning was caused by the fact that most of the underground seminarists worked and therefore could learn only in their weekend. Sometimes education was divided into terms if it was possible. For example, Fr. Hryhoriy Kanak worked a s an engineman on a ship so he spent 3 months at sea (he learned from books, tape recordings of Masses), and the next 3 months he had a rest. During this time he studied permanently in Ivano-Frankivsk underground seminary under the leadership of Bishop Pavlo Vasylyk. Sometimes education took some more time due to service in the army: Fr.Zynoviy Honcharyk from Fr. Kosylo in Yaremche during 1977-78 and 1980-84. Sometimes it happened that training began back in high school years, so learning continued for a long time. For instance, Oleh Hovera became a seminarian of the underground seminary led by Fr.Vasyl Semeniuk, when he was in the 7th form (being a 14-year-old boy): "I started to study at a fairly early age that is why my course was….. mechanically stretched a bit for a longer period of time. For the period of my studies there were two generations of graduates of the seminary. But I was still young so my studying took a while" (Hudzyak, Turiy & Hurkina, 2001).

Most classes each teacher could hold in different places and at different intervals. Fr. O.Hovera recalls that he studied both in Ivano-Frankivsk and in some other places. Sometimes they even visited Fr.Vasyl's home not far from Yaremche, sometimes we gathered in Deliatyn. We even had a flat that could be used for the gatherings. In fact, all of us hardly ever gathered together because the more people there were, the more noticeable it was. It was necessary to take into account the fact that neighbors sometimes became suspicious and it even happened that several times they reported to the authorities. That is why we had to be very cautious. In some cases certain places were exposed. So we had to move to other flats (Hudzyak, Turiy & Hurkina, 2001)

"In the underground seminary the program was designed in such a way that students were to come to the lectures at a certain time. It was once or twice a week. Later they received some home task. They were to prepare lectures or they were given some literature as there was no physical possibility for everyday gatherings. There was no actual schedule, it was very flexible, and intervals between the gatherings could be shorter or longer…" (Hudzyak, Turiy & Hurkina, 2001).

It is clear that the curriculum was much narrower than at the regular seminaries and included only the most important and most necessary subjects. They included moral and pastoral theology, dogma, canon law, ritualism, Holy Scripture, philosophy, Church history, ethics and church singing. The most comprehensive list of subjects we have from the memories of clandestine seminary from Fr. M. Kosylo: Catechism (textbook by F. Shpiraho

in 3 volumes, translated by J. Levitsky), Moral Theology (textbook by Nolgen in handwritten translation by S. Lukach), Pastoral Theology (textbook by Yulian Pelesh), Liturgics (handwritten textbook "Rituals" by S.Lukach), Marital Right (textbook by Melnytskyi and handwritten notes of lectures of Fr. S.Lukach), Canon Law, Hermeneutics, Patrology (textbook by Fr. V. Laba), Apologetics, Pastoral Law, History of the Universal Church, Philosophy, History of Ukraine, Church Slavonic, Bases of Greek and Latin, Church Singing (from textbooks and Polotnyuk Dolnytska), Dogmatics, Homiletics, Biblical History (Hudzyak, Turiy & Hurkina, 2001).

Underground Greek Catholic theologians also studied Orthodox literature. But after graduation young priests in their interviews mentioned that they often felt a certain lack of knowledge. In such cases communication with senior and experienced pastors and self-education were of great help (Hudzyak, Turiy & Hurkina, 2001)

Thus, the mission of priests of the Greek Catholic clergy in 40-90 was in consistent active struggle for the reactivation of the UGCC, for its way from the underground, in each village, town, city of Galicia. Daily work, holding services, educational activities in the underground, active civic position of each Greek Catholic priest resulted not only in preservation of the fundamental features of the UGCC under the totalitarian Soviet regime, but also in establishment of the opinion on national essence of the Church in the minds of Galician public. Education and training of priests were organized at a high level despite the illegal existence of the Church in the USSR. The main principles of education were training of firmness, courage of priests, readiness for self-sacrifice and hard work. Underground seminary could exist only because of Fathers of older generation who remembered them in the legal status. Good personal example of a mentor gained significant value. They studied from textbooks that were left over from the libraries of the seminaries. UGCC underground seminaries kept the tradition of theological education, complemented educational concept; so in the period of independence new schools for the clergy appeared around major centers of the seminaries.

3. Present stage of canon law in terms of priestly trainings (1991-2013)

3.1 Educational institutions of UGCC and the concept of development of theological education

The process of the formation of theological education of Ukrainian Greek Catholic Church in independent Ukraine was one of the most important elements of its organizational structure and one of the catalysts of its public mission. If the first renaissance of the UGCC in the 1989-1996 only emphasized the need for theological training and training of a new generation of priests, then later, in 1995-2000, the emphasis shifted to strengthening Christian ideals in society through educational institutions. This is evidenced by the course of the "new evangelization" of society, proclaimed in 1996 by the Synod of Bishops and Patriarchal Council of the UGCC. The same purpose is pursued by the concept "Living parish - a meeting place with the living Christ", declared by the Synod of Bishops in 2011 (as the basis of the "Strategy of development of UGCC until 2020"). (The Ministry of Education is considering the recognition of diplomas of religious educational institutions, 2011).

Theological education takes over a new feature within these concepts, meaning that it is becoming education not only for priests. According to historian Delyatynskyi, this educational process should always be guided by the Church, because it was called by Christ to be a "teacher of nations" (Deliatynskyi, 2012).

Integration of theological education into the state educational environment will be actively implemented in the nearest future. In the early 2000s this fact caused debate and even polar views of representatives of various schools and the public about the possibility or impossibility of recognizing of theology as an academic and educational field by the state. Soon the process of state recognition of the possibility of such integration and the first attempts to accredit authoritative theological universities aroused a new wave of interest in theological education among scientists, traditional Christian churches and in society (Deliatynskyi, 2012). First National Conference "The Future of Theology in Ukraine" became an important scientific and theological forum where representatives of the traditional Christian churches and confessions were able to discuss the state and prospects of development of theological education. It was held in November 2009 in Kyiv at the Institute of Religious Studies named after St. Thomas Aquinas (Roman Catholic Church in Ukraine) (*The future of theology in Ukraine,* 2009).

Exit from the underground, legalization and restoration of the organizational structure of the UGCC in Ukraine in the years of 1987-1991 stimulated the process of revival of theological education network. First, during the 1990-1994, seminaries in Lviv and Ivano-Frankivsk were restored, centers which have historical roots of the pre-war period and continued to exist in "Underground" Church. At the same time seminaries in Zolochiv, Drohobych, Ternopol, Uzhgorod were formed around the "catacomb" centers of theological education as well as other centers of theological education in Kolomyia and Chortkiv. Soon after that, in 1992-1994, with the blessing of Catholic Synod, Lviv Theological Academy resumed its activities, whose historical roots date back to 1929, when it was founded by Metropolitan Sheptytskyi and has continued since 1963, when Metropolitan Josyf Slipyj founded Ukrainian Catholic University as a successor of the traditions of the LTA in Rome. In general, the first decade of the existence of theological schools of the UGCC in Ukraine (until 2000) was the stage of revival and development, aimed primarily at the appropriate theological training of priests the need for whom was so much felt by the reborn Church. Of course, this period is also the time of formation of theological educational institutions of higher level, including Lviv Theological Academy, Ivano-Frankivsk Theological-Catechetical Institute (Horban', Delyatyns'kyy, 2010) Uzhgorod Theological Academy, whose activities are aimed at training scientists-theologians, catechists, clerks and other church personnel (Resolutions of the Synod of Bishops UGCC conducted in Kyiv, 2002). Since the mid 1990s, there is some reconsideration of the strategic goals of institutions of theological education. Thus, in 1997-2000, “Theological Concept of Education in Ukraine" was developed and approved by the Synod of Bishops, which identified key priorities, place and purpose, levels and subjects of theological (The concept of theological education, 2000).

The authors of the "Concept of theological education in Ukraine" tried to outline the nature of theology relying on its "patristic vision" as the prayerful contemplation and communication and communion to the persons of the Holy Trinity (Deliatynskyi, 2012)."Having made a brief historical overview and pointing to" the challenges of time", Ukrainian theologians have attempted to define the conceptual foundations of theological education, find its place and purpose, describe its structure. Putting a goal to return proper place to theology in Ukraine (Bendyk, 2000) for the first time theological education was outlined as a complex system whose structure had two levels (general and specialized, with the first one being differentiated into different types of theological schools), "academic degrees" (bachelor, master, doctor), professional categories (theologians, priests , catechists, regents, clerks, sexton, etc.), forms, tools and training methods, and the mechanisms of development of UGCC theological schools (through affiliation and accreditation) (The concept of theological education, 2000). Thus, the authors of the "Concept" made "revolutionary" step in the reform of theological education of the UGCC: for the first time the emphasis was shifted from the priority of theological education only for training clergy to the possibility to enable "every man learn to communicate with God" (The concept of theological education, 2000), that is theological education for all categories of "people of God".

During the first decade of the century. the share of the other component of higher theological education UGCC - Academic Theology -is gradually increasing. A special role in the development of theological education and science was assigned to the Lviv Theological Academy. First, since 1994, there was only one academic faculty (Theology) and one research institute (Institute of History of the Church) in the structure of LTA. Gradually, the organizational structure of LTA was significantly enhanced: firstly new research institutes were set up – Neo-Latin Institute (1995), Institute of Theological Terminology and Translation (1996), the Institute of Religion and Society (1997), the Institute of Marriage and Family life (1997) Catechetical (1998), Institute of Liturgical Studies (1999), the Institute of Ecumenical Studies (2004), Institute of canon Law (2000) (Botsyurkiv, 1998), secondly, in 2001, Faculty of Humanities was founded in addition to philosophical and theological one. At the same time, measures were taken on the accreditation of theological institutions of the UGCC. In 1998, the LTA received international accreditation of the Congregation for Catholic Education of the Holy See, through which a bachelor's degree in theology began to be recognized by many Catholic schools in the world (Deliatynskyi, 2012). In 2001, the Patriarchal Synod of Bishops, guided by can. 648-649 CCEC (Kobiv, 1995). provided Catechetical LTA with the status of higher education establishment and the right to award the academic degree of "Master of Religious Sciences". So gradual development of the structure and international accreditation of LTA allowed to initiate measures to create a higher theological institution of the UGCC - Catholic University. In 2002 by the decision of the Foundation of St. Clement Lviv Theological Academy was reorganized into the Ukrainian Catholic University, where Faculty of Humanities was created along with the Philosophical and Theological Faculty (Deliatynskyi, 2012).

Formation of Catholic University in the long run depended on several factors - the choice of the concept of development, the legal framework of its activities, structure and the quality of the teaching staff. The peculiarity of the UCU was the fact that from 2002 it, by definition of the vice-rector of UCU M. Marynovych, entered two legal systems: "the legal framework of the Ukrainian state - as a higher educational institution recognized by the Ministry of Education and Science; and canonical field of the Catholic Church - as a Catholic university, recognized by its Church and the Congregation of Catholic Education in Vatican". It is necessary, first, to align and correct the rules of activities of UCU with the two legal systems, and secondly, to select one of the many variants of the development concept of UCU (Deliatynskyi, 2012). During the inauguration (opening) of Catholic University in Lviv, June 25-29, 2002, the conceptual basis of the formation and development of this theological higher education and scientific institution was already discussed.

In the next decade, Ukrainian Catholic University, from which in 2006 Lviv Theological Seminary of the Holy Spirit was separated, continued to develop its educational and scientific activities. The Institute of Liturgical Studies of the Catholic University introduced a 2-year cantors' Program (Kasper, 2009).In order to coordinate research and publishing work in the structure of UCU, the scientific publishing department and council was established in 2003. UCU academic institutions intensified their activities and Metropolitan and Patriarchal Synods of Bishops of the UGCC started to use their services. Given the importance of UCU, UGCC hierarchy have always cared about its development and urged the public to support this institution. It is significant that among the graduates of Catholic University (until 2010), 29% were priests and deacons, 26% continued their education in Ukraine or abroad, 17% were working at Catholic University, 14% were involved in the social sector, 10% worked in business, 4 % graduated abroad and now teach at UCU (Deliatynskyi, 2012).

In the early twenty-first century the question of the recognition by the state of theological Ukrainian higher educational institutions of traditional Christian Churches becomes of increasing importance (Zinkevych, Lonchyna, 1985). The first step towards "legalization" and the integration of theology in public educational and research area was the signing on April 18, 2000 of "Memorandum of Cooperation of the Ministry of Education and Science of Ukraine, the State Committee of Ukraine for Religious Affairs and the All-Ukrainian Council of Churches and Religious Organizations", stating the intention to "take the necessary measures to implement the List of areas and specialties, which are trained in universities, major "Theology" (Deliatynskyi, 2012). However, the decision of the Ministry of Education and Science of Ukraine in 2002 for inclusion in the "List of areas and specialties, which are trained in higher educational establishments" in "Theology" within the field of study "Philosophy" has made it possible to assign only qualification "Bachelor of philosophy "rather than" Bachelor of Theology", and it is this fact which later caused serious reservations on the part of the Church regarding the possible loss of content due to the state accreditation of theological education, in respect of the licensing procedure of theological schools itself, etc. (Deliatynskyi, 2012).

After all, the process of recognition of Theological Education by Ukrainian State lasted for a decade, and it must be emphasized, it has not finished so far. In 2005, due to an appeal to the President of Ukraine Viktor Yushchenko of Cardinal Liubomyr Husar, university rectors I.Vakarchuk (LNU) and V. Briukhovetsky (UKMA), Ministry of Education and Science of Ukraine started the process of forming a working group to develop the educational standard in Theology, which included scientists from different universities of Ukraine, including T.Dobko from UCU. Subsequently, by the order of MES of Ukraine № 363 of 16 June 2005 the list of specialties, which granted educational qualification level "bachelor" was complemented with specialty "Theology (theology within the field of study "Philosophy", but on December 13, 2006 this specialty was excluded from the list with Resolution № 1719 of the Cabinet of Ministers of Ukraine, and from that time specialists and masters of theology in Ukraine could be trained on the basis of educational qualification of Bachelor of Philosophy (Deliatynskyi, 2012).

Meanwhile, in March - April 2006, the State Accreditation Committee made a decision on licensing programs for bachelors, specialists and masters of theology and accreditation of the program for bachelors of theology at the Ukrainian Catholic University, and on 7th July 2006 for the first time in the history of modern Ukraine 104 theological program graduates received a diploma "Bachelor of Theology" of state standard. State accreditation of UCU was of great importance for the development of theological education of UGCC, because now the Catholic university was integrated in the educational and scientific community of the Ukrainian state. Accreditation of UCU first opened new perspectives for other theological higher education institutions of the UGCC, including Ivano-Frankivsk Theological Academy and Uzhgorod Theological Academy.

The integration of theological education in the state legislative field became completed with the adoption in 2010-2011of a number of important state decisions: Decree of the Cabinet of Ministers of Ukraine № 787 of 27 August 2010 on training of specialists and masters in "Theology" branch of knowledge "Humanities", Resolution of HAC of Ukraine № 273 of 15 May 2010 on introduction of theology in the list of scientific specialties, in which he thesis for the degree of Candidate and Doctor of Philosophy can be written and defended; Decree of the Cabinet of Ministers of Ukraine № 267 of 17 March 2011 on the preparation of bachelors in "Theology" branch of knowledge "Humanities", taking into account confessional division (*The Ministry of Education is considering the recognition of diplomas of religious educational institutions,* 2011).Finally, by the decision of the Ministry of Education and Science, Youth and Sports of Ukraine № 1210 of 21 October 2011 the Working Group was "to consider the recognition of diplomas and degrees of graduates of higher religious educational institutions and submit projects of the relevant acts". So, it is necessary to note that with the adoption of these documents the legal framework for state accreditation and licensing of institutions of theological education of and science was formed. State legislative steps towards recognition of theology soon caused not only practical interest interested parties (usually members of the theological institutions

of higher education), but also a discussion among Ukrainian scholars, Theologians and other scholars who sympathized theology or even belonging to various Christian churches and denominations on the objectives, environmental standards and level of academic theology, its development as an educational and scientific professions, as well as prospects for its state accreditation (Deliatynskyi, 2012).

New stage of discussions regarding the development of theological education and science began, probably in 2011, when its focus was shifted towards assessing the level of academic theology.

As a result, it should be noted that there is a need to review some of the provisions of the "Concept of the UGCC theological education" (1998) and propose its new edition. Among the innovations there should be differentiation of institutions of theological education and science, which should be based on a new approach, such as differentiation of theology itself. The process of full state recognition of theology as an independent educational and research area (i.e., going beyond the field of "Philosophy") is a mandatory condition for full development of theological education. This requires best efforts to state accreditation not only of UCU, but also of other theological higher education institutions (academies), except seminaries. Prospects for the development of theology in Ukraine depend certainly on joint steps towards from the State and the Church. Obviously, the state should regulate the right of the Churches to establish educational institutions (from secondary schools to academies and universities) at legislative level, but the existing legal framework provides opportunities for the church of state accreditation of theological education and science.

Conclusions.

Therefore, it is impossible to understand the development of education and training of priests during the Second World War, the underground period and during independent Ukraine without a thorough analysis of canon law in this area. Some decisions of UGCC synods and councils determined the nature of education of priests and the main directions of development of education at the present stage. But these decisions were not primary in the history of canon law of UGCC. Thus, rapid development of education occurred after Zamoyski and Lviv Synods. Schools for the clergy started to open and certain principles on the vision of what a pries should be were also formed.

Due to the aforementioned events there was a galaxy of eminent personalities in the UGCC who continued to take care of the formation of the clergy to fulfill the mission of salvation of human life in Christ. The most significant impact on the education and training of the clergy had Bishop Jeremiah Lomnytsky OSBM, Bishop Gregory Khomyshyn, Metropolitan Andrey Sheptytsky, Patriarch Josyf Slipyj. In their writings main components of the doctrine of theological education were formed, the importance and priority of education and training of priests in law was defined. Their works, pastoral letters, decrees, some decisions in have evolved into the present legislative initiatives and the concept of theological education of UGCC.

The common feature of all regulatory documents in education and training of priests during the Second World War, during the underground period and at present is the proclamation and consolidation in them of principles of preparation of candidates for the priesthood: deep faith, true vocation, understanding the needs of the people and the nature of missionary evangelization, resistance to challenges, thorough intellectual training. The difference lies in the types and status of the legal documents that determined the activity of the UGCC in different historical conditions of its development. In fact, during the underground period the Church did not exist to the state. Diocesan resolutions of eparchial Councils of UGCC became an important element of law-making in the twentieth century because they determine the inner life of each diocese. Some items of the decisions of many dioceses indicate priority of training a new generation of priestly formation.

References.

Andruchiv, I. O., Lysenko, O. J., & Pylypiv, I. V. (2010). (Ivano-Frankivsk) Diocese office UGCC in the light of the ages: historical and religious aspects. Nadvirna: Nadvirnianska drukarnia.

Bendyk, M. (2000). About the concept of theological education in Ukraine. Bohosloviya, 64(1-4), 30-39.

Botsiurkiv, B. (2005). Ukrainian Greek Catholic Church and the Soviet State. Lviv: UKU.

Botsyurkiv, B. (1998). Ukrainian Greek Catholic Church in the catacombs (1946-1989). Hurovo Ilovets'ke, Pol'shcha: Kalendar Blahovista.

Bystrytska, E. (2002). Josyf Slipyj - organizer of theological science in Ukraine Pamyat stolit, № 6 (istorychnyy naukovyy ta literaturnyy zhurnal.), 69-74.

Deliatynskyi, R. (n.d.). 29. Deliatynskyi R. Development of the UGCC theological education as a means ofreevangelization ("new evangelization") of Ukrainian society November 8 2012.Ukrainian theological tradition. Retrieved from https://www.academia.edu

Deliatynskyi, R. (n.d.). 29. Deliatynskyi R. Development of the UGCC theological education as a means ofreevangelization ("new evangelization") of Ukrainian society. Ukrainian theological tradition. Retrieved from https://www.academia.edu

F. R-2157. Opys №2 Kryminal'ni spravy reabilitovanykh. Sprava №7498. Arkhivno-slidcha sprava po obvynuvachennyu Balahuraka Volodymyra Illicha, Bakhtalovs'koho Romana Danylovycha i Sov'yaka Yaroslava Mykhaylovycha za st. 16-54-1a, 54-10 ch. 2, 54-11 KK URSR, 10.08.1949 – 31.03.1992. (Kopiya vypysky z protokolu dopytu H. Khomyshyna).

F. R-2157. Upravlinnya Sluzhby bezpeky Ukrayiny v Ivano-Frankivs'kiy oblasti. Opys № 2 Kryminal'ni spravy reabilitovanykh. Sprava № 4733. Arkhivno-slidcha sprava po obvynuvachennyu Lukacha Semena Mykhaylovycha za st. 54-10 ch. 2 KK URSR, 28.10.1949 – 11.09.1950, 17.11.1989, 111 ark.

F. R-388. Opys № 2 1944-2007. Sprava № 193. Dokumenty (informatsiyi, dovidky, spysky) pro nayavnist' ta diyal'nist' uniativ, pokutnykiv, buvshykh monakhiv i monakhyn', 1984 roku, 33 ark.

F. R-388. Opys № 2 1944-2007. Sprava № 203. Dokumenty (informatsiyi, dovidky, spysky) pro nayavnist' ta diyal'nist' uniativ, pokutnykiv, buvshykh monakhiv i monakhyn', 1986 roku, 65 ark.

F. R-388. Upovnovazhenyy Rady v spravakh relihiynykh kul'tiv pry Radi Ministriv SRSR v Stanislavs'kiy oblasti, m. Stanislav Stanislavs'koyi oblasti. Opys № 2 1944-2007. Sprava № 101. Postanovlenyya y reshenyya partyynыkh y sovetskykh orhanov otnosyashchykhsya k deyatel'nosty upolnomochennoho Soveta na mestakh, 02.01.1966-30.12.1967, 109 ark.

Ferents, H, & Svatko, Ya (Eds.). (2012). Pidpil'na tserkva v umovakh totalitarnoyi derzhavy (Instytut istoriyi Tserkvy UKU). L'viv, Ukrayina: Halyts'ka vydavnycha spilka.

Horban', R, & Delyatyns'kyy, R. (2010). Ivano-Frankivs'ka teolohichna akademiya UHKTs: tradytsiyi ta stanovlennya (do 125-richchya Ivano-Frankivs'koyi yeparkhiyi UHKTs, 20-richchya vykhodu z pidpillya Dukhovnoyi Seminariyi ta 10-richchya zasnuvannya Teolohichnoyi Akademiyi) (1st ed., Naukovyy visnyk IFTA "Dobryy pastyr"). Ivano-Frankivs'k, Ukrayina: Nova Zorya.

Hudzyak, B, Turiy O, & Hurkina, S. (2001). hierarchy and clergy of the Ukrainian Greek Catholic Church in the underground (1946-1989 years) (Vol. 4, Katolytsyzm). Kyyiv, Ukrayina.

Interview with Bishop Michael Sabryha [Interview]. (n.d.). Retrieved from http://www.tze.org.ua/jeparhija/jepyskop/57.html

Kahuy, P, & Sydor, O. (2009). Activity of Ukrainian Greek Catholic Church in the Ukraine in 1946-1990 years (Z Bilyk, Ya Shashkevych, O Kyrychuk, L Moravs'ka, M Omel'chuk, I Orlevych, et al., Eds.). L'viv, Ukrayina: Lohos.

Kashchak, I. (2007). Education of a Ukrainian Greek Catholic priest (1882-1946) (O Shpunt, Trans.). Lviv, Ukraina: Svichado.

Kasper, V. (2009). Attendant of joy. Priestly life - priestly ministry (N Krets, Trans.). Zhovkva, Ukrayina: Misioner.

Kobiv, Y (Trans.). (1995). Kodeks Kanoniv Skhidnykh Tserkov. L'viv, Ukrayina.

The concept of theological education in Ukraine (2000). Bohosloviya, 64(1-4), 6-19

Kovba, Zh (Ed.). (2003). Metropolitan Andrey Sheptytsky: Documents and materials. Kyyiv, Ukrayina: Dukh i litera.

The future of theology in Ukraine: Materials of the All-Ukrainian Conference (Kyyiv, 19-20 lystopada 2009 r.). (2009). Kyyiv, Ukrayina: Vydavets' FOP Romanyuk M.

The Ministry of Education is considering the recognition of diplomas of religious educational institutions (2011, November 05). Retrieved from https://byzantina.wordpress.com/2011/11/05/news-218/

Postanovy Synodu yepyskopiv UHKTs, shcho vidbuvsya u m. Kurytyba (Brazyliya) 5-10 veresnya 2011 roku Bozhoho. (2011, September 10). Retrieved April 16, 2019, from http://ugcc.ua/official/official-documents/postanovy_patriarshoho_synodu/postanovi_sinodu_yepiskopiv_ugkts_2011_roku_70050.html

Postanovy Synodu Yepyskopiv UHKTs, shcho vidbuvsya u m. Kyyiv 7-12 lypnya 2002 roku. (2015, September 11). Meta. Retrieved March 23, 2019, from https://issuu.com/meta-ugcc-lviv-ua/docs/meta_18_res

Serhiychuk, V. (2001). Ascetism of Greek Catholics of Ukraine in struggle for the faith and the country / Kyyiv, Ukrayina: Dnipro.

Shcherbyak, Yu. (2006). Conceptual foundations of educational doctrine of Ukrainian Greek Catholic Church in the XX Century Ternopil', Ukrayina: Pidruchnyky i posibnyky.

Sheptyts'kyy, A. (2009). Pastoral Message of Metropolitan Joseph to the clergy after 1946 and the appeal to be stable during the persecution of the Faith (Do dukhovenstva. Vybrani lysty Mytropolyta Andreya Sheptyts'koho ta Patriarkha Yosyfa Slipoho). L'viv, Ukrayina: Artos.

Studiys'ke chernetstvo. (n.d.). Retrieved from http://studyty.org.ua

Vasylyk, P. (2004). Rehabilitated by History. (Vol. 1-5, T. 2) (L. Vardzaruk Ed.). Ivano-Frankivsk: Misto NV.

Volynets, O. (2007). Ukrainian Greek Catholic Church and the state: the theory and practice of interaction (Vol. 263). Lviv: Lvivska politekhnika.

Zinkevych, O, & Lonchyna, T R (Eds.). (1985). Martyrology of Ukrainian churches: u 4-kh Tomakh (Vol. 2, Ukrayins'ka katolyts'ka tserkva). Toronto-Baltymor, Kanada: Khrystyyans'kyy samvydav Ukrayiny.

Viktor Ladychenko
Doctor of Law, Professor,
Head of the Department of International Law and Comparative Law
Liudmyla Golovko
Candidate of Legal Sciences, Associate Professor,
Associate Professor of the Department of International law and Comparative Law
National University of Life and Environmental Sciences of Ukraine,
Kyiv, Ukraine

ACHIVING SUSTAINABLE DEVELOPMENT TROUGH ENVIRONMENTAL ACCOUNTING AND DISCLOSURE OF ENVIRONMENTAL INFORMATION: EXPERIENCE OF UKRAINE AND THE EU

Abstract. *The purpose of our scholarly work is to explore legal regulation of access to environmental information and public participation in environmental decision-making in Ukraine and the EU. In the study legal mechanism for ensuring the right to access environmental information which contributes to sustainable development of society was proposed. We consider how the Aarhus Convention has been implemented in EU member states and Ukraine, concentrating on the public access to information as a valid instrument for environmental protection. Taking part in the research theme "Informational and legal support of the environmental component of national security" funded by the Ministry of Education and Science of Ukraine we have analyzed the possibility of obtaining operative environmental information on the state of the environment in cities and villages of Ukraine. We also have studied European standards in the sphere of disclosure of environmental information and public participation, found some gaps in Ukrainian legislation and filled them in.*

JEL Classification: K32

Introduction.

Information support in the field of environmental protection is one of the main elements of the state's obligation to create favorable conditions for life and health of people. Without reliable and complete information on the state of the environment it is impossible to speak about the proper implementation of other environmental rights of the individual. Thus, the right to environmental information is the right of a person which promotes the exercise of his right to a prosperous environment, which is why it occupies a special place among the fundamental rights and freedoms of citizens, characterizing the degree of development of a modern democratic state. Informing the public raises awareness of people and their understanding of environmental problems.

Legal regulation of information is a global problem. In the context of the formation of a global information society, a global issue of ensuring general access to environmental information is emerging. This corresponds to Ukraine's international commitments to ensure the ecological safety of mankind. Climate change and the fight against global warming are one of the global challenges that the global community faces today. Article 14 of the Paris Agreement provides for a so-called global summing up. The outcome of the global summing up should serve as an information basis for the Parties, with the strengthening of nationally determined contributions in accordance with the provisions of the Paris Agreement.

At the same time, Swiss climatologist Joeri Rogelj warns about the devastating weather anomalies in the coming years (Joeri et al, 2016, p. 187). Improving the legal regulation of information in the field of environmental protection will allow the development and implementation of new principles of information law in the field of the environment, which will solve the problems of preventing environmental threats and obligations assumed by Ukraine after the ratification of the Paris Agreement on Climate, 2015. However, from August 2015 to September 2017 Ukraine was disconnected from the Register by the International Journal of Transactions on anthropogenic emissions and removals of greenhouse gases (Ukrainian Register of Carbon Units, 2017).

1. Legal regulation of access to environmental information in Ukraine

Article 50 of the Constitution of Ukraine guarantees the right of free access to information on the state of the environment, the quality of food products and household items, as well as the right to distribute it. This information may not be made secret (Constitution of Ukraine, 1996). Thereby, citizens of Ukraine have the right: to receive information on emergencies related to environmental pollution, which have arisen or may arise, and about the necessary security measures; for compensation of damage caused to their health and property as a result of emergency situations related to the pollution of the environment of man-made and natural nature.

The subject of public interest is information that indicates a threat to state sovereignty, territorial integrity of Ukraine; ensures the realization of constitutional rights, freedoms and responsibilities; indicates the possibility of violation of human rights, misleading the public, harmful ecological and other negative consequences of activity (inactivity) of individuals or legal entities, etc. (Article 29 of the Law of Ukraine "On Information") (Law of Ukraine "On information", 1992). As can be seen from this norm, the law broadly defines areas of public interest. It also clearly calls environmental information as a matter of public interest. The main sources of such information are environmental monitoring data, cadastres of natural resources, registries, automated databases, archives, as well as certificates issued by authorized state bodies, bodies of local self-government, public organizations and individual officials.

Ecological information support is carried out by state authorities and bodies of local self-government within their powers via:

a) preparation for consideration by the Verkhovna Rada of Ukraine of annual National Report on the state of the environment in Ukraine, and after it - publication in a separate edition - posting on the Internet;

b) annually informing the relevant councils and population about the state of the environment of the respective territories;

c) systematically informing the population through the mass media about the state of the environment, the dynamics of its changes, the source of pollution, the placement of waste or other changes in the environment and the nature of the impact of environmental factors on people's health;

d) immediate notification of emergency ecological situations;

e) the transfer of information received as a result of environmental monitoring by channels of information communications to bodies authorized to make decisions on the information received;

f) ensuring free access to environmental information that is not a state secret and is contained in lists, registers, archives and other sources.

However, there is no procedural order for providing environmental information, leading to irresponsibility of state bodies. The Ministry of Ecology and Natural Resources of Ukraine does not have a "Regulation on the procedure for providing environmental information".

A number of regulatory legal acts in Ukraine are devoted to the problem of access to environmental information. In particular, they include the Laws of Ukraine "On Information", "On Access to Public Information", "On Environmental Protection", "On Environmental Impact Assessment", Resolution of the Cabinet of Ministers "On Ensuring Public Participation in the Formation and Implementation of State Policy" and "On the Procedure for Disclosing Information on Activities of Executive Bodies on the Internet".

According to the Law "On Environmental Protection", information on the state of the environment (environmental information) is any information in written, audio-visual, electronic or other material form about:

- the state of the environment or its objects;
- land, water, subsoil, atmospheric air, flora and fauna and the level of their pollution;
- biodiversity and its components, including genetically modified organisms and their interaction with the objects of the environment;
- sources, factors, materials, substances, products, energy, physical factors (noise, vibration, electromagnetic radiation, radiation) that affect or can affect the state of the environment and human health;
- threat of occurrence and causes of environmental emergencies, the results of elimination of these phenomena, recommendations on measures aimed at reducing their negative impact on natural objects and human health;
- environmental forecasts, plans and programs, activities, including administrative, state environmental policy, legislation on environmental protection;
- costs associated with the implementation of environmental activities from environmental funds, other sources of financing, economic analysis conducted in the decision-making process related to the environment. The main sources of such information are environmental monitoring data, natural resource cadastres, registers, automated databases, archives, as well as certificates issued by authorized state bodies, local governments, public organizations, individual officials (The Law "On Environmental Protection", 1996).

Despite the seemingly expanded list of elements of environmental information contained in Ukrainian legislation, the national definition does not include all elements compared with provisions of the Aarhus Convention. For example, it does not contain "cost-benefit and other economic analyses and assumptions used in environmental decision-making" (Aarhus Convention, 1998), which, of course, is a disadvantage. The above mentioned definition does not also include information about accidents, catastrophes, dangerous natural phenomena and other emergencies that have occurred or can occur and threaten the safety of people.

Legislation of Ukraine today operates with several identical terms - information on the state of the environment and environmental information. At the same time, the legislative definitions of these terms are somewhat different. So, in some cases, definitions do not cover certain types of environmental information, some definitions are more detailed than others. In the context of the divergence of the definitions contained in laws and the Aarhus Convention, definition contained in the Convention should be applied, because provisions of international treaties ratified by Ukraine have a higher legal force than laws of Ukraine if there are disagreements between their norms.

To ensure sustainable development of Ukraine and the EU, we are developing an understanding of the information rights of people – it is the right to collect, disseminate, use and store information on the basis of which informational relations arise, are fundamental, natural in nature, necessary for formation and development of individual for the proper functioning of the state (Ladychenko, 2018).

At present none of the actions of environmental organizations or activists who stand for Ukraine's safe environment do not have the desired result. First of all, because there is no necessary environmental protection legislation and strict control over its compliance.

Implementation of the EU environmental standards is very important for Ukraine, not only because of the need to comply with the Association Agreement between Ukraine and the European Union, but also because of the urgent need for progressive reforms and improvement of the state of the environment (Ladychenko, 2019).

Now the environmental management system is formed around its separate branches (air protection, waste management, protection and rational use of water resources, subsoil, etc.), at the same time there is no proper systematic exchange of information in electronic form. The issue of public administration in the field of environmental protection, which is currently divided between various executive authorities is the main difficulty. In particular:

- the permitting system mainly concerns the competence of regional state administrations;

- the licensing system and individual permissions are within the competence of the Ministry of Environmental Protection;

- statistical authorities, the State Water Agency regarding the use of water resources, the State Service of Geology and Mineral Resources, etc. are responsible for the reporting;

- control over compliance with environmental legislation belongs to the State Environmental Inspectorate;

- taxes for the use of natural resources and pollution of the environment are collected by the State Fiscal Service.

This situation leads to the impossibility of providing the public and other interested parties with qualitative and complete information about the state of the environment. It also creates an additional permissive and controlling burden on business entities.

Integration of public administration in the field of environmental protection should be carried out in a comprehensive manner, both by industry (protection of atmospheric air, waste management, protection and rational use of water resources, mineral resources, etc.), and in functional areas (licensing system, monitoring system, etc.).

The current legal framework is formed on the basis of normative legal acts of 1990-1999, namely: Law of Ukraine "On Environmental Protection" of June 25, 1991. Analysis of the content of Art. 10 of the Law of Ukraine "On Environmental Protection" makes it possible to identify a number of information rights of citizens, which are implemented through the introduction of a mechanism for ensuring the implementation of state and public control over compliance with legislation on environmental protection, participation of public organizations and citizens in environmental protection, by creation and functioning of the network of the national ecological automated information-analytical system providing access to environmental information. By the Resolution of the Cabinet of Ministers of Ukraine of March 30, 1998, № 391 "On Approval of the Regulation on the State Environment Monitoring System" the regulation defines the system of bodies which competence includes collection of various types of information. At the same time it should be noted, that the Resolution has disadvantages: the specifics of the envisaged exchange of information provides only collection and accumulation of information by the executive authorities; the regulation does not reflect information obligations of these bodies before the population.

2. The State of Environmental Information Disclosure in Ukraine

According to Ukrainian legislation, the public is informed about the state of the environment in the form of an annual National Report on the state of the natural environment in Ukraine, which, after its consideration by the Supreme Council of Ukraine, is published and posted on the Internet. The creation of a similar document is also envisaged for the regional state administrations. Other articles of the Law provide for "systematic information of the population through the mass media on the state of the environment", "immediate information about emergency environmental situations and ensuring free access to environmental information", etc. Without a specific timetable and responsible executors these provisions are of declarative nature and citizens of Ukraine can only expect to receive environmental information only annually (Radovenchyk, 2016).

Unfortunately, we have to state that the population of Ukraine generally receives incomplete, inaccurate, scientifically unjustified information about the state of the environment, individual natural objects, the quality of water and air, use of chemical products in agriculture, melioration, accidents or disasters. Sometimes such information is even hidden. Thus, it can be concluded that the performance of the function of active informing the citizens of Ukraine about the state of the environment by the authorities remains problematic. The lack of full access to environmental information has tangible consequences for citizens, their health and well-being, and also hinders environmental protection processes.

In Ukraine there is a problem of concealing environmental information on the state of the environment from the side of state authorities and local self-government. One of the reasons for this state of affairs is the imperfection of legislation.

According to the part 4 of the article 4 of the Aarhus Convention, a request for environmental information may be refused if the confidentiality of commercial and industrial information, where such confidentiality is protected by law in order to protect a legitimate economic interest. Within this framework, information on emissions which is relevant for the protection of the environment shall be disclosed. This norm is successfully used by the Ministry of Natural Resources for concealing certain results of environmental expertise, which has already attracted public attention.

In the last years the law on access to environmental information has not been systematically implemented in Ukraine. The Ministry of Ecology and Natural Resources of Ukraine does not develop or publish the annual National Report on the state of the environment. As of March 2018, the latest National Report was posted on the official web portal of the Ministry of Ecology and Natural Resources in 2015. Within last two years the report was not submitted to the Supreme Council of Ukraine for consideration and was not published, although this is provided by law.

In accordance with the current legislation, the Ministry of Regional Development has to prepare each year a National Report on the quality of drinking water and the state of drinking water supply. But the last known report is dated 2009.

Increasingly, legislative guarantees for access to information on environmental impact assessment of investment projects are being violated. Not always citizens can protect their right to environmental information in the courts. The next problem in Ukraine is concealing of environmental information not only from the side of public authorities, but also from the side of private sector. The State of Environmental Crime in Ukraine is also not disclosured. Current ecological situation in Ukraine has extremely negative parameters. Industrial accidents became more frequent, that have demonstrated improper situation concerning the compliance by business entities, which activity is highly hazardous, with requirements of environmental legislation and ignoring of basic safety rules (Gulac, 2019).

Ecological state in Ukraine is largely determined by the existence of large-scale environmental crime, which is not reflected in official statistics. Thus, the analysis of statistical data on the state of ecological crime in Ukraine shows that its share in the overall structure of crime is about 0.3-0.5%. Over the past 14 years, relative indicators of environmental crime have doubled: from 0.28 in 2002 to 0.57 in 2016 (Turlova, 2016). The most frequent types of environmental crimes include crimes in the field of plant protection, crimes in the field of wildlife protection and crimes in the field of mineral resources protection.

Ukraine is one of the European leaders in amber reserves. Ukrainian companies that have state licenses for the extraction of amber, annually extract about four tons of this mineral. However, in reality this is only a small percentage of real amber production in Ukraine. Up to 300 tons of amber is illegally mined annually. In fact, state bodies know about that, however, strict control is not exercised. The main reserves of amber of Ukraine are concentrated primarily in the forests on the territory of the Rivne, Zhytomyr and Volyn regions. According to the State Forestry Agency of Ukraine, 3.5 thousand hectares of forest are already damaged in this region due to the illegal mining of amber. The above situation has developed due to the fact that "black" miners do not adhere to the technology of extraction, washing out the amber stones with motor-pumps, which leads to the destruction of the drainage channels of groundwater. This leads to catastrophic consequences, i.e. complete elimination of the possibility of circulation of groundwater and as a result of microclimatic changes in these regions. Law enforcement officers conducted several inspections, seized several kilograms of illegally minded amber, opened criminal proceedings, but failed to solve the problem (Ministry of Ecology and Natural Resources of Ukraine, 2016). Now, for illegal mining of amber in Ukraine, a fine of up to 10,000 or conditional sentences are imposed.

3. Positive EU Experience, which Should Be Implemented in Ukraine.

By ratifying the Aarhus Convention in 2005 the EU committed itself to guaranteeing access to environmental information, public participation in environmental decision making, and broad access to justice in environmental matters both at the national and the EU level (Schoukens, 2015). At regional level European Union has taken important steps to align Community legislation with provisions of Aarhus Convention. Namely, Community environment policy is based on integration of environmental protection into other policies and aims to protect the environment for future generations (Luttenberger, 2004). Furthermore court decisions in the EU have emphasized the importance of public participation to environmental justice and democracy (Bonorris, 2010).

Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information and repealing Council Directive 90/313/EEC provides citizens with the right to environmental information stored or produced by public authorities, including information on the state of the environment, as well as on policy or activities, or how this can affect the health and safety of people.

Applicants are entitled to receive this information within one month from the time they ask for and not saying why they need it. In addition, there are public authorities which have to actively disseminate information on environmental information in their possession (Aarhus directive, 2003).

In the EU, access to environmental information is regulated by Directive 2003/4/EC. Citizens of the EU have the right to receive this information within one month from the moment they ask and not to mention why they need it. In addition, public authorities are required to actively disseminate information on environmental information at their disposal.

The public does not usually have the means to collect and process environmental data. However, access to environmental information will provide them with knowledge of the quality of the environment in which they live and the effectiveness of competent authorities in delivering environmental protection and related human health requirements. On the basis of this information they can: make decisions about their way of life, contribute to informed debate about environmental protection activities, and support measures to improve the environment. Indeed, such informed participation is a primary goal of the directive. This conclusion can be reached especially taking into account that the Information Directive is part of the systematic implementation of the pillars of the Aarhus Convention within EC law. However, access to information, including access to environmental information, also has a more general legislative role: ensuring transparency and accountability on the part of authorities dealing with environmental cases, therefore enhancing good governance within a basic cross-cutting legal branch of the public administration (Implementation, 2016).

The European Commission monitors the implementation of EU legislation in EU member states to ensure that the laws are implemented in accordance with their intended objectives and that all EU countries comply with the agreed rules through reporting and monitoring using Shared Environmental Information System (SEIS). The European Environment Agency of course plays a crucial role in collecting and providing environmental information, with the help of its European environment information and observation network (EIONET). EIONET is a network of some 900 experts from over 300 national environment agencies and other bodies dealing with environmental information in 37 European countries, as well as five European Topic Centres (ETCs) working on specific environmental themes (European Environment Information…, 2017).

Society is informed about: the state of the environment (e.g., air limits, water conditions, etc.), emissions (for example, in the European Pollutant Release and Transfer Register), pressure (for example, according to the Marine Strategy Framework Directive), individual activities (e.g., in accordance with the Nitrate Directive), plans and programs (e.g. air quality management plans, river basin management plans, etc.), market surveillance (e.g. according to REACH), costs and benefits of actions.

From the analysis we conducted, we should note the following ways to improve the mechanism for organizing the activities of state authorities and bodies of local self-government in order to provide the population with environmental information:

- It is necessary to include in the current legislation provisions that improve the mechanisms for ensuring information rights in the field of environmental protection. In order to ensure proper protection of the violated right to environmental awareness from untimely, incomplete or unreliable publication of data, we propose the introduction of changes to the current normative legal acts. In particular, the right to timely receive socially significant information about the state of drinking water from any information manager, which should bring it to the attention of the population, should be added in art. 9 of the Law of Ukraine "On Drinking Water and Drinking Water Supply";

- Separately, it is necessary to supplement the mechanism for bringing to administrative, criminal, disciplinary responsibility for the failure of information managers to perform their duties;

- It is necessary to create a single environmental control body and transfer all control functions to it, to take into account in its competence the requirements of the Directive 2010/75/EC on industrial emissions (integrated pollution prevention and control);

- Improve informational and legal component of legislation by adopting the Regulation on the activities of territorial subdivisions of the State Security on the principle of ecological resources and ecologically-technogenic districts, local communities during the performance of the functions of environmental control (landslide, control of objects of the Natural Reserve Fund of local significance, hunting, poaching, waste management);

- Implementation of regulatory requirements for automated systems in accordance with the recommendations of the UNECE Commission on the establishment of a European Observing Network and information on the state of the environment and experience of EUROWATERNET, EUROSOMNET, ICPFORESTS networks.

Environmental governance envisages the introduction of common state classifications in the field of environmental protection taking into account EU classifiers, development and implementation of the unified national identification system for objects that affect or can affect the environment, development and implementation of integrated electronic services for obtaining permits and submission of reports by environmental users.

It should be noted that the introduction of e-governance is in line with Ukraine's international commitments, in particular, is set out in the Association Agreement with the EU. We consider it necessary to develop the concept of legal support for information and environmental security in accordance with the standards of international information and international environmental law. Another positive EU experience which should be implemented in Ukraine derives from the EU Directive on Environmental Liability, which allows the public and nongovernmental environmental organizations to request competent authorities to intervene in cases of environmental damage or imminent threat (Dellinger, 2011).

Based on the example of EU member states Ukrainian legislation should also include provisions, which would enable the public to influence decisions concerning the necessary preventive measures. Non-governmental organizations working at the environmental protection and persons who suffered the adverse effects or are able to experience the damage from environmentally hazardous activities should have the right to require the competent authority to take the necessary preventive measures. This requirement is necessary because in Ukraine the public has actually no real impact on the environmentally significant decisions (Ladychenko, V., Golovko, L., 2017).

Public participation can help by adding another expert voice to the democratic discourse as well as to lawmaking and law enforcement processes (Toth, 2010). When discussions and negotiations on the protection of the environment, on the balancing of ecological with other interests take place in the remoteness of administrative offices or behind closed windows, the environment almost always is the loser; only when the discussions are transparent and public, is there a chance that the considerations of the protection of the environment prevail over vested interests. This aspect links the citizen's right of access to information which is directed against public administration, to the specific concern for the environment (Krämer, 2013).

The right to access to environmental legislation is enshrined in Ukrainian legislation, but the right to effective and accessible procedures to enable individuals to seek all relevant and appropriate environmental information, and to participate in environmental decision making, when their right to life, or/and their right to respect for private and family life, are threatened is not legally regulated. That is why it is necessary to use EU experience in this sphere.

Procedural environmental rights provide several benefits to the public. They serve to: raise awareness of the state of the environment and possibly motivate behavioural change; facilitate gathering of information for sounder environmental decision-making, which in turn likely increases legitimacy of, and buy-in into, resulting decisions; facilitate accountability of government and others (including private entities, to some extent) as regards environmental protection throughout the policy process, with increased scrutiny likely to lead decision makers to give greater weight to environmental considerations and adhere more closely to environmental policy and law); and enable improved implementation and enforcement of environmental law (in a climate of limited state resources and given the widespread nature of environmental harm), by empowering the public to control public authorities' environmental decisions and protect their rights dependent on a healthy environment which may be/have been affected by the proposed decision (Kimber, 1998). But at the same time public participation requires that people and population groups need to understand the policies in order to choose the ones that match their needs (Squintani, 2016).

Conclusions.

Legislation of Ukraine on access to environmental information has several shortcomings. It does not contain specific timetable for disclosure of environmental information to the public and responsible executors. There is no procedural order for providing environmental information, leading to irresponsibility of state bodies. There is also lack of information exchange between the authorities. For example, the Ministry of Ecology and Natural Resources of Ukraine does not have a "Regulation on the procedure for providing environmental information". These shortcomings, in our opinion, should be eliminated.

In Ukraine the public has actually no real impact on the environmentally significant decisions. In EU member states citizens have mainly right to information and consultations. Higher levels of participation (such as involvement or cooperation) are recommended in the guidelines issued by ministries, but they are not obligatory to the competent authorities. Here there are perspectives for further development, because public participation may contribute to a more informed planning process.

The introduction of an integrated electronic environmental management system, taking into account European approaches to the management of environmental information, will eliminate the "dispersion" of environmental information between various executive authorities, ensuring the availability of information not only about emissions to the environment, but also about permits, limits, decisions on impact assessments on the environment, etc. in a single database. The system of e-government will also optimize and improve the efficiency of public administration in the field of environmental protection, reduce the reporting, permissive burden on business entities.

In Ukraine the issue of public administration in the field of environmental protection is currently split between different executive bodies; there is no united information policy and the body responsible for it. There is no obligation for the authorities to inform the population even in crisis situation.

We offer an interdisciplinary approach: integration of information law, environmental law, international law, human rights and national security. This will allow us to form a conceptual understanding of the legal regulation of information on the environment as an object of realization of information human rights and a component of national security in the context of environmental threats.

The study of legal mechanism of ensuring the human right to free access to to environmental information has an important practical meaning for further reform of the legislation of Ukraine on ensuring the human right to have free access to environmental information, as well as to improve the practical activity of authorized entities in this area.

In the context of our study we developed an understanding of information human rights - the right to collect, disseminate, use and preserve environmental information which is fundamental and natural.

We understand information human rights as a group of rights with a center around freedom of information, the right to environmental information, the right to communication in environmental sphere, the right to access to environmental information that is public or socially significant, the right to privacy, the protection of personal data.

This study will form the legal framework to ensure the right of access to environmental information in Ukraine by introducing the position of Information Commissioner - an official, the competence of which includes monitoring of compliance of information law with information policy in the environmental field.

References.

Aarhus Convention on access to information, public participation in decision-making and access to justice in environmental matters (1998). Aarhus (Denmark), June.

Bonorris, S., Targ, N. (2010). Environmental Justice in the Laboratories of Democracy, 25. Retrieved from: https://gov.uchastings.edu/public-law/docs/NRE_FA10_bonorris_targ.pdf

Constitution of Ukraine. (1996). Retrieved from: http://zakon3.rada.gov.ua/laws/show/254%D0%BA/96-%D0%B2%D1%80

Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters. 1998. Retrieved from: http://www.unece.org/fileadmin/DAM/env/pp/documents/cep43e.pdf

Dellinger, M.F. (2011). Ten Years of the Aarhus Convention: How Procedural Democracy Is Paving the Way for Substantive Change in National and International Environmental Law. Retrieved from: https://ssrn.com/abstract=2004513

Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information and repealing Council Directive 90/313/EEC. 2003. Retrieved from: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32003L0004

European Environment Information and Observation network. 2017. Retrieved from: https://www.eionet.europa.eu/

Gulak, O. (2016). On the issue of legal regulation of environmental safety in Ukraine. *International Scientific Journal*, 2, 145-148.

Hulla & Co Human Dynamics; Kostelac Bjegovic, Jasmina. (2016). *Handbook on the Implementation of EC Environmental Legislation.* Regional Environmental Center, 1102 p.

Kimber, C. (1998). Understanding Access to Environmental Information: The European Experience. *Law in Environmental Decision-Making: National, European and International Perspectives,* 139, pp. 142-143.

Krämer, L. (2013). The EU, access to environmental information and the open society. *Environmental Law Network International*, pp. 38-43

Ladychenko, V. (2019). Groundwater Management in Ukraine and the EU *European Journal of Sustainable Development* Volume 8 Issue: 1 Pages: 31-39

Ladychenko, V. (2018). The Right to Access to Environmental Information in Ukraine and the EU *European Journal of Sustainable Development.* Volume 7. - Issue: 3. – P. 455-459.

Ladychenko, V., Golovko, L. (2017). Implementation of European Environmental Policy in Ukraine: Problems and Prospects. *European Journal of Sustainable Development*, Volume 6, № 3, pp. 333-339

Law "On Environmental Protection" (1991). Bulletin of the Supreme Council of Ukraine. – №. 41. – St.546.

Law of Ukraine "On information". (1992). Retrieved from: http://zakon0.rada.gov.ua/laws/show/2657-12

Law of Ukraine "On the protection of the environment". (1991). Retrieved from: http://zakon2.rada.gov.ua/laws/show/1264-12

Luttenberger, A., Rukavina, B. (2004). The right to access to information on environmental matters. *Energy and the Environment,* pp. 257-263.

Ministry of Ecology and Natural Resources of Ukraine. (2016). The amount of illegal extraction of amber reaches 300 tons per year. Retrieved from: https://menr.gov.ua/news/29977.html

Radovenchyk V.M., Radovenchyk Ya.V., Katchula I.H. (2016). Access to environmental information in Ukraine. *Bulletin of the National Technical University of Ukraine "Kyiv Polytechnic Institute". Chemical engineering, ecology and resource conservation*, 1, 75-81.

Resolution of the Cabinet of Ministers of Ukraine "On Approval of the Regulation on the State System for Environmental Monitoring". 1998. Retrieved from: http://zakon0.rada.gov.ua/laws/show/391-98-%D0%BF

Rogelj, Joeri, and Reto Knutti. 2016. Geosciences after Paris. *Nature Geoscience* 9.3, pp. 187.

Schoukens, H. (2015). Access to Justice in Environmental Cases after the Rulings of the Court of Justice of 13 January 2015: Kafka Revisited? *Utrecht Journal of International and European Law,* 31(81). Retrieved from: http://dx.doi.org/10.5334/ujiel.di

Squintani, L., Vanheusden, B. (2016). EU Environmental and Planning Law Aspects of Large-Scale Projects, 1st ed., Intersentia Cambridge, Cambridge.

Toth, B. (2010). Public Participation and Democracy in Practice – Aarhus Convention Principles as Democratic Institution Building in the Developing World. *Journal of Land Resources & Environmental Law,* 30, 295-330.

Turlova, Yu. A. (2016). The system of environmental crimes. *Uzhhorod National University Herald. Series "Law"*, 2 (36), 103–109.

Ukrainian Register of Carbon Units. (2017). Retrieved from: http://www.carbonunitsregistry.gov.ua/

Dariya Shyan
PhD (Geography), Senior Lecturer,
Kryvyi Rih State Pedagogical University,
Kryvyi Rih, Ukraine
Olena Lakomova
PhD (Geography), Senior Lecturer,
Kryvyi Rih State Pedagogical University,
Kryvyi Rih, Ukraine
Sergii Sonko
DSc (Geography), Professor, Head of the Department of Ecology and Life Safety,
Uman National University of Horticulture,
Uman, Ukraine

PHILOSOPHY AND METHODOLOGY OF CONCEPT OF THE SUSTAINABLE DEVELOPMENT

Abstract. *The idea of sustainable development which was represented in Rio (1992), has not received a proper imprint at the second global forum in Johannesburg. For 10 years, almost no calls were made to "restrict consumption of resources". And this is not a coincidence, because the main directions of development and structuring of geographical space, the hierarchy of countries that master it, have not change. The global environmental problem is constantly and inviolately growing and there is no hope for it to be resolved. Such "hopelessness" comes from the incorrect determination of methodological guidelines in the study of the basic foundations of the interaction of nature and society, and the derivative of this false understanding of the phrase "sustainable development". One of the main conditions for sustainable (noospheric) development should be the change in the structure and functions of natural ecosystems, which leaves them capable of self-reproduction. During developing programs of development at national levels, it is necessary to take into account the general-planetary tendencies of structuring the geographical space with the further "search" of their place in the process. This forces us to look for other perspectives of Ukraine's "entry" into a globalized society with the rejection of "post-industrialist", "civilizational", and other fashion stamps.*

JEL Classification: A13, D83

Introduction.

In 2017, it was 25 years since the first World Forum of the Earth in Rio de Janeiro. The Concept of Sustainable Development (CSD) developed at that time - almost the last hope of the whole world to harmonize the relations of nature and society - needs an additional study today, first of all, due to the "limping" of many of its theoretical positions. In particular, already at the second forum (Johannesburg, 2002) the main restrictive content of this concept, at the request of developing countries, has been changed in the direction of improving the quality of life in these countries. Thus, the ground under the feet of the creators of this concept was knocked out – from the authors of the first reports of the Rome Club to the Bruntland working group. After all, in order to achieve a high living standard for most of the planet's population, against the backdrop of increasing use of natural resources, the capacity of the planet's ecosystems decrease at the same time.

So, in the proper words, this version of the CSD is reminiscent of the modernized version of the Communist Party Manifesto (Son'ko, 2019).

Taking into account that the strategy of sustainable development (applied, practically directed version of the CSD) has a manifestation in the state programs (Lakomova, 1999; Concept ...), as well as in the educational plans for the training of future specialists (http://lib.udau.edu.ua/ handle / 123456789/4165), it is likely that the time has come for its more detailed analysis, and possibly also for revisions.

The current advances in information and nanotechnology have led to a deliberate silencing of the true value of natural resources for the development of the world economy today (Kazakova, Shiyan, Son'ko, 2017). For example, on the eve of the sixth production and technological development, it is necessary to forget about natural resources and confidently go through the concept of the scientist towards the increase of the planet's population to 30-50 billion (Korsak, 2012). But any conscious scientist always proves to anyone that the consumption of natural resources by mankind is the main reason for the exacerbation of the global environmental problem.

Events of the last decades have shown that there are at least two patterns of consumption of natural resources: the first: raw-oligarchic (The Russian Federation, Iran, Iraq, Kuwait, Ukraine, Kazakhstan, Turkmenistan, Uzbekistan, etc.). With this model, the use of extracted natural resources goes according to the scheme of "eating", that is, the development of resource-intensive technologies, designed for further predatory extraction of the same exhaustive natural resources; the second: distributive-post-industrial (Countries G-7, Scandinavian countries, to some extent China and South Korea), in which the funds from the use of natural resources are invested in the latest technology. At the same time, raw material pressure on its own territory decreases due to its spatial "redistribution" in other (less developed) countries (Son'ko, 2016).

Most of the former socialist countries of Europe, India, Pakistan, South Africa, and Brazil are "on the way" from the first to the second one. The other countries (mostly African, Asian, and Latin American) continue to sell their natural resources, remaining at the lowest levels of economic development. And this is only an external, visible side of the relationship of human civilization with the biosphere. But if we take into account the substance-energy relations in the natural ecosystems that are radically affected by humanity, then the sad forecasts of the Rome Club about the depletion of our planet can come true in the coming decades.

Since the consumption of natural resources and, therefore, the ecological state of the environment depends on understanding the ecological nature of energy relations in ecosystems, it seems to make sense again and again to turn to the study of the natural sciences and philosophical foundations of the concept of sustainable development. Actually, our work is dedicated to this important task.

1. Philosophical origins of the concept of sustainable development

Initially, the development of the concept of sustainable development was the answer to the exacerbation of the global environmental problem. But, despite the fundamental theoretical and applied researches of many sciences, the global environmental problem is not yet resolved, but only exacerbated. It makes look critically, through some of the other positions, at the various hypotheses, concepts, theories and theoretical approaches in the sciences that are trying to solve it. It is needed to emphasize the starting methodological positions.

One of the main causes of the global environmental problem is the spatial modification of the surface of the planet by mankind in the process of its economic activity. Consequently, man as the responsible one of its exacerbation must change his primarily "spatial behavior" in the biosphere. From the point of view of the scientific methodology, it is necessary to overcome the post-classical subject-subject approach today for building object-object relations, in which the main object of study and transformation should be our species and, above all, the biospheric behavior of this species (Son'ko, 2019).

However, only a holistic multidisciplinary vision of any scientific and, in particular, scientific and applied problems can give visible hope for their successful resolution. The ecological problem, or the problem of interaction between society and nature, is best suited to the rank of multidisciplinary. Moreover, "all the problems faced by human civilization in the process of interaction with nature are essentially ecological" (Girenok, 1987). Consequently, in our context there must be a common one, which combines the origins and diversity of the manifestation of the ecological problem - a territory (in the broader sense - geographic space), the study of which is engaged in geographic sciences, as the oldest in the list of natural sciences.

Actually, the emergence and further exacerbation of the environmental problem is, in the broader sense, the cemented history of humanity around one axis. The limitation of the subjects of private sciences from time to time gives us the opportunity to get acquainted with the private-scientific concepts: fundamental interactions (physics), structure of matter (chemistry), forms of motion of matter (philosophy), development of human civilization (history), formation of the universe (astronomy) and others.

These concepts do not fully explain (and cannot explain!) the mechanism of the emergence and further exacerbation of the global environmental problem. Even the development of recent general scientific concepts, such as the systematic (which, in the efforts of I.Prygozhin, turned into synergy) did not approach, but rather removed the final result, leaving a profound trace in terminology ("geosystems", "ecosystems", "equilibrium systems", "galactic systems "," civilization systems ", and others) and passing the ultimate goal of knowledge through awareness of its complexity.

The awareness of the planetary space through the idea of its material filling favorably distinguishes the khorological paradigm of Kant-Ritter-Gettner from others (Hettner, 1927).

This real earth's space in the process of development of our planet is filled with a variety of "substance", in particular, products of the material-energy exchange of the geographical envelope (before the appearance of life), the products of life of living organisms and their biomass (in the era of the emergence of life), "scientific thought" of mankind (according to V. Vernadsky), which turns into geological force (in the Holocene), finally, the components of space systems in the extraterrestrial space.

At the same time, the planetary space does not exclude, but, it seems, involves the development of "things in itself" (I.Kant), "absolute idea" (F.Gegel), "modus" (B.Spinoza), "noosphere" (V.Vernadsky), "earthly worlds" (A. Reteyum), "eniology" (G.Shvebs), "post-classical landscape studies" (V.Paschenko), "information science" (I.Juzvishin), and many others who often do not have "empirical scientific evidence" because of their metaphysics, but they try to explain the essence of what is happening on our planet holistically and completely. As a general scientific (philosophical) category, "space" stands outside the natural sciences, but rather over them. The same can be said about "time". Understanding space and time in the special theory of relativity be A. Einstein removes us from the earthly representation of these categories and targets humanity to realize its cosmic nature. Confirmation of this is the current real efforts of Ilon Mask concerning the colonization of Mars. However, the main thing that comes from the theory of relativity is the genetic inseparable unity and the interrelation of space and time.

The terrestrial nature of space and time is studied by geography and history, largely through its subjects and objects of study. Geography, for the purpose of obtaining any conclusions, structures the earth's space (both conditionally and in reality), history - structures the earthly time, dividing it into eras, periods, and other segments.

The connection and the inextricable unity of these sciences is that any earth-like systems necessarily develop in their "space-time", which is embodied in any primary units of the whole process. Actually, the finding of the primary units - the "firsthand" as objects of the study of the private sciences - has always been the main question of natural science, whose current successes are increasingly convincing in the infinite cognition, and therefore in endless immersion in matter and processes for the search of the desired "primary unit". Consequently, the entire evolution of natural science is the evolution of reductionism, which, in the course of its long development, turned into a worldview.

In the natural sciences methodological and negative manifestation of reductionism were concepts aimed at a separate consideration of nature and society as subsystems, developing according to their own different laws. At the same time, the spatial "integrator" of these subsystems was considered at best "the natural landscape", which for a long time (from the Neolithic period) is no longer "natural". However, attempts to see the landscape as a "repository" of all natural and human-filled content of the process of interaction between nature and society is understandable, because it involves the search for the primary units of the structure of the universe that philosophers have been doing since ancient times (atomists).

Among many concepts regarding the primary units of the historical and geographical process, in historical sciences - civilization systems were logically privileged; in geographic - geosystems. How much correctly determined "primary units" model the real processes occurring in the earth's space-time? And is there any other spatial-temporal primary unit that describes the entire process of humanity's development of the planet surface? Actually, the assertion of the existence of such a prime spatial and temporal unit of historical and geographical process is the main scientific hypothesis, which is substantiated by one of the authors (Son'ko, 2010; Son'ko, 2019).

In particular, it is noted that the geographical process is a spatial manifestation of noospherogenesis. This understanding implies the presence of time manifestation of noospherogenesis (historical process/ethnogenesis), biological manifestation of noospherogenesis (anthropogenesis), and so on.

In fact, since the emergence of the species "Homo sapiens", a qualitative structural-material transformation of the earth's surface takes place during noospherogenesis, aimed at complicating the structural organization of the human population, primarily due to the structuring of geographical space. It is understanding that brings us closer to the ecosystem essence of our species and gives the right to include it (species) in the general-planetary evolution that is being carried out today in the pursuit of sustainable development. In this approach, there is also hope for finding the primary noosphere unit. As such a noosphere ecosystem is proposed, the primary among which is agroecosystem (Son'ko, 2018).

2. Natural and scientific foundations of the concept of sustainable development

The attempts to make the natural-scientific foundations in the model of social development have a long history. A number of researchers (V. Vernadsky, S. Podolinsky, M. Rudenko, L. Larush, A. Shevchuk, T. Muranivsky, J. Tennenbaum, etc.) in their writings describe the energy nature of the interaction of society and nature, but their works practically do not reveal the mechanism of contradictions embedded in the system of assessments of society, using cost indicators. In addition, the ways out of a number of global crises are not revealed, probably due to insufficient understanding of the phenomenon of mankind on our planet.

Society creates structures that perform the relevant functions, and uses these structures to interact with nature. The result of this interaction is the new quality of the environment; it changes its forms, energy potential, the direction of movement of mass flows and energy in the surrounding space. Moreover, the environment in which a human creates his own ecosystem is changing (Son'ko, 2009).

In most writings of eco-alarmists (from T. Malthus to speeches of the Rome Club), a human appears in the form of a monster, which must be locked up in the "cage" (mainly in urban form of settlements) and which would build its own life, regardless of the natural matter-energy exchange (Kovalev, 2003). In our opinion, such an idea is a direct consequence of the uncertainty of the true value of so-called "inexhaustible" natural resources, which is laid down in political economy by its classics.

But nature cannot be deceived - our planet, whose geographical space humanity lives in, is not a closed system, but is connected with space by mechanisms of substance-energy-information exchange (Khrutsky, Introduction ...). Actually, Sergei Podolynsky wanted to inform pillars of economic thought about this undeniable truth (Podolinsky, 2000). One of the contemporary domestic followers of S. Podolinsky's ideas, V.N Pis'mak, believes that in connection with the purposeful influence of man on the environment, consisting in separating a part of matter from it, moving it in space and joining it to another part for obtaining a new the whole, human provides the movement of the elements of the environment in space and their transformation by the influence of energy impulses on their structure. Studying the environment, a human constantly opens its new qualities, which allows a human to increase the power flow of energy impulses and the density of their concentration per unit of area. All of this allows a human to influence the environment on an ever-increasing scale. V. Pis'mak considers the substance of the environment as a "neutral" energy mass that in certain conditions shows its energy or material qualities to a greater degree, while the energy mass goes either to the energy quality (entropy) or to the material quality (non-entropy).

The division of matter into two opposite components, which are in unity, is fundamental in the theory of V. Pismak. The first of the constituent parts is represented by energy mass of substances having a large coefficient of instantaneous entropy due to the unstable atomic state under certain conditions, -these are energy carriers: wood, coal, gas, water, wind, uranium, etc. The second component is represented by the energy mass of substances having stable atomic bonds, which allow for any rather powerful influences to maintain their non-entropic properties and not entropy in the environment for long period. Man arranges the interaction of the first, which V. Pis'mak calls entropics, and others, which are called non-entropies. In this case, their complex property comes out, and it is expressed by the transition state (energy mass), the quality of which allows a people to convert the material components involved in the production into qualitatively new non-entropies (Pis’mak, Energy impulse...).

Man arranges the processes of interaction between entropies and non-entropies, which results associated particles of non-entropies obtaining some movement ability, and the resulting energy mass of the combined entropies and non-entropies becomes homogeneous in its composition and occupies a new spatial volume. The moment of change in volume is used by a human to give the movement to one or another constructs in the structures simulated by it, which cannot move independently. As a result of these processes, the entropies disappear and a human directs his efforts on extraction of entropies over and over again, which leads to the destruction of the entropy substances that represent the real part of our planet. People also "extract" substances-non-entropies from the planet, "capture" them, and move above it in space.

The human provides them with new forms and qualities that help a human by virtue of his higher non-entropy qualities to further manage the entropy and non-entropy, transforming into energy mass in production and output from it in a new form of non-entropy waste and man-made non-entropies - "organized", "smart", " "inspired", having a new meaning, and are intended to entropy into space as a result of their use (exploitation).

As a result of the intensification of human activity, the earth's substance, represented by entropy, must disappear in outer space, and the earthly substance represented by non-entropies take a completely different form, which has two areas of its quality - useful in the form of human rights protection from the influence of the environment and waste products. Recognizing the environment, people create new designs of their organizational forms, which provide it with more "effective" interaction with the environment, so it provides more accelerated destruction. According to V. Pis'mak's classification, these forms are characterized by seven of their species, which function and develop today on the planet. If the first kind is represented as a human, then the seventh kind is represented by a global economy organized in a megamodel. The eighth form, quasi-model, begins to manifest itself in an organized man interaction of elements in outer space and is only being formed (Arkady, Tatiana Ursul, 2018).

The process of the emergence of any product in production or in a material form in nature is not the interaction of values quantities of labor), but is the interaction of the qualities of space contained in certain volumes. This interaction has always been carried out in certain proportions as the interaction of entropy and non-entropy qualities of space. Today, the achievements of science allow us to measure these qualities, and therefore there is an objective possibility to measure the newly created product in energy units (Pis'mak, Energy impulse ...).

In modern socio-economic models, as a result of human interaction with nature, an additional product-non-entropy appears, the entropy of which a human begins to control, whether they are main productive assets or infrastructure objects and social-household purposes or stocks of entropy products (energy resources) that are in a non-entropy state. In the physical sense, a human begins to have a larger amount of organized mass, which is in the space of its habitat. That is, the "added product" appears, or the product that appears as a result of human activity in the space of its stay (Yablokov, Levchenko, 2017). It is a materialized non-entropy object with a stable spatial form and metered internal energy content (entropy or non-entropy).

But, most importantly, that this object is new for nature and it expands the spatial volume of human habitat. As a result of modern research (Mironenko, Sorokin, 2001; Rogachev, 1999), the consequence of it is the phenomenon of "squeezing" the geographic space, which leads to its rigid polarization in accordance with the theory of central places of V. Christaller (Christaller, 1967).

One of the directions of applying the method of income and expense analysis in the context of developing an effective state policy is the introduction into macroeconomic calculations of the parameter of the negative influence of technogenic pollution of the environment on the economic development of not only a separate country, but also human civilization in general. This approach was embodied in the development of the concept of sustainable development.

The Ukrainian translation of the English words "sustainable development" is not entirely adequate to the English analogue and the essence of this concept. It is better to translate this category into a "life-sustaining development", because exactly this sense is the central point of this concept.

The basis of the concept of life-sustaining (sustainable) development is the understanding that life on Earth is supported by the complex interaction of global flows of energy and materials that are consumed and produced, both in natural ecosystems and in technogenic economies. It is believed that it is an interconnected circulation of direct and inverse relationships that reflect the revenue and expenditure flows at the time axis, that are characterized by the tendency of the global balance. But such an expenditure-revenue analysis shows that this balance may not be compatible with the existence of life on Earth if the costs associated with catastrophic environmental outcomes exceed the income from ordinary economic development.

3. The theory of biotic regulation – the basis of ideas about the stability of living systems

The theory of biotic regulation, developed by the Russian scientist V.G. Gorshkov brings significant influence on scientific ideas about the limits of permissible intervention in the biosphere (Gorshkov, 1995). In his view, biota can regulate global concentrations of biogenes in the external environment, as well as compensate the adverse changes and random fluctuations of catastrophic phenomena of planetary-cosmic nature (earthquakes, meteorites, droughts, etc.) by directing changes in the concentrations of biogenes it controls (similar to the action of the Le Chatelier’s principle in physical and chemical resistant plants).

The action of biota for the environment is reduced to the synthesis of organic matter from the inorganic, and, accordingly, to the change in the ratio between them in the biosphere. This control of the quantities of products and destruction aimed at ensuring a high level of environmental tolerance for all species, creating in them a certain "reserve" of environmental plasticity. So, the amount of oxygen in the atmosphere three orders of magnitude exceeds the amount of oxygen needed to decompose all the organic carbon of the biosphere. The process of "burial" of organic carbon in sedimentary rocks ensures the constancy of concentrations of oxygen and carbon dioxide in the biosphere.

But during the last 2-3 centuries, a human began to actively use fossil fuels in the form of concentrated deposits of coal, oil, natural gas, containing a thousandth of the value of the total organic carbon of sedimentary rocks, thus beginning to waste strategic stocks of

the biosphere, created by it during periods of time, incomparable with life whether of several human generations or of several geological epochs. In the pre-industrial era, the areas of exploited lands accounted for less than 5% of land area, in which a person used no more than 20% of biota production. In this case, the total anthropogenic share of consumption of biosphere products did not exceed 1%. The modern share of this consumption is an order of magnitude greater than this value, that is, 10%.

According to V. G. Gorshkov, such a violation of the structure of natural biota represents a danger to the biosphere in ten thousand times greater than the absolute destruction of it. That is why the desire to artificially increase the productivity of agro-, silva- and mariculture to the maximum possible level always leads to the greatest perturbation of the environment. From the foregoing we can deduce two axioms of sustainable development, which are directly related to the use of biological resources:

1. Domestic animals and crops, all their genetic modifications, as well as private plots, gardens and parks that do not possess internal stability and resilience, should not be included in the concept of natural biota, and their subsequent artificial support by humans only contributes to perturbation of the biosphere.

2. Constancy of using of nature is possible with such a state of biota and the surrounding environment, in which perturbation is below the threshold of violation of the principle of the Le Chatelier.

The foregoing helps us to formulate the notion of the physical state of sustainability and the term "sustainability", put into the name of the "Concept of Sustainable Development". As you can see, the stability of the biosphere depends on the amount and density of the correlations of species in wildlife (biota). Probably, such a corrected state of biota in a more popular language can be labeled as "biodiversity". And in this approach, the struggle for the conservation of biodiversity goes from the narrow-mindedness of a bunch of stubborn biologists (as is often mistakenly believed) to the task of important global-ecological significance.

With strong scientific traditions and large-scale public initiatives in the study of biosphere processes, representatives of Western scientific schools laid the inner meaning of the term "Sustainable development", which means development that meets the needs of the present time, but does not jeopardize the ability of future generations to meet their own need.("Our common future", 1989).

It is not a coincidence that the first idea of sustainable development was put forward by economically successful countries, which have destroyed their own natural ecosystems long time ago, and earlier than others have realized the environmental consequences that the trying to repeat their path is carrying to the rest of the world. Consequently, a warning from Rio de Janeiro that the global ecosystem is actually depleted, that the economy needs an accounting of the environmental factor and that technical progress is far from always

equivalent to social progress, has shown that this problem has finally become the fact of public awareness.

Any civilization, country, branch of the economy, the enterprise in its relations with the natural environment can have different levels of harmful influence, which can be considered as one of the ecological factors of the environment to which the biota can adapt to varying degrees - eliminate, level, to nullify, finally, to "get used" in accordance with the law of ecological Shelford's tolerance. It is the provision of such an opportunity for corrugated living organisms (biotas) to determine the level of environmental tolerance of the industry.

As for the other pair of concepts, that is, growth and development, the differences are partly based on the multiplicity of English "to develop", which means to improve and grow, expand. But if humanity, as some technocrats think, is really doomed to continuous growth, then biota becomes a sharp contrast. The process of formation and evolution of natural ecosystems, their behavior are characterized by a phenomenon of development without growth. Any ecological system, that evolved evolutionally, is developing qualitatively only for a long time, but does not grow. And the boundaries for such qualitative development, probably, do not exist, and the enormous complexity of the biota confirms that fact. A stimulus for development is its constant "dialogue" with the environment, the search for the most effective mechanisms for its regulation and stabilization, and in the case of external perturbations - the ways of returning the environment at the edge of stability.

Possible ways to achieve sustainable development

The approach of the spatial existence of humanity to "constancy" is proposed to be implemented in the form of possible scenarios at different spatial levels (table 1). At the same time, the understanding of the primary spatial unit of the further evolution of our species deliberately contains the noosphere content, based on the fact that the noosphere is the sphere of reason that is still formed, and the process of spatial development of socio-natural systems is a process of noosphereogenesis. In particular, the existing strategy for the formation of the eco-network should cover the meso- and macro levels. At the micro level, it is necessary to introduce a coordinated strategy with the noosphere dynamics of strategic measures, natural ecosystems and agroecosystems (Son'ko, 2019). At the same time, one of the main conditions of noospheric (sustainable) development is fulfilled - such a change in the structure and functions of natural ecosystems of humans who have their own ability to self-reproduce.

As an approach to sustainable, the priority development of agroecosystems is foreseen, as analogues of the noosphere ecological niche of HomoSapiens, , with the subsequent need for the "insertion" of the administrative-territorial division at their borders, since at that time the chorological sense of the interaction of nature and society is approximated to the optimal one.

Table 1. Scenarios for the transition to sustainable development (noosphere)

Elements of scenarios	Scenarios and concepts of nature management			
	Conservative	Centrist	Scientistic	Noospheric
The boundary of the planet population (Bn. ppl)	0,5-1,5	8-12	30-50	8-10
The nature of urbanization	The level of urbanization is decreasing, instead of metropolises and large cities, the ecological networks are developing	Gradual stabilization of the number and size of cities, as well as the population of the Earth	The level of urbanization is increasing, large cities become more ecological, including metropolis	The level of urbanization is decreasing, cities remain, but cease to play the role of a "social being", expanding the network of ecological settlements
Changing of the size of the world's power consumption	Decrease in 6-10 times	Increase 2-3 times	Increase in 10 or more times	Stabilized at the current level, but the energy consumption structure is radically changing towards energy saving.
Energy structure	RES-based energy (Renewable Energy Sources)	Polyenergetics: atomic, based on RES, thermal	The predominance of nuclear power	Basic - hybrid and alternative; supporting - atomic.
The nature of agriculture:	Saving	Moderately saving	Intensive	Thrifty-natural
- share of arable land	Low (35-40%)	Moderate (to 50%)	High (more than 60%)	Low (35-40%)
- system of agriculture	Organic Mineral fertilizers and pesticides are not used	Compromise. Mineral fertilizers and herbicides are used in moderate doses.	Intense. Widespread use of closed soil, high doses of mineral fertilizers, irrigation, and monoculture.	Highly adaptive to local conditions, with a minimum amount of energy subsidies
- variety of farm animals and type of feeding	High variety, extensive feeding at the expense of natural forage grounds, growth stimulants are not used.	Moderate diversity, integrated feed rations with arable feed, growth stimulants are not used	Low diversity, intensive fattening of cattle, pigs, poultry with arable food, wide use of growth stimulants and other "biochemistry"	Diversity according to local traditions, integrated feeding, adapted to local conditions (provided that the share of "fodder arable land" is not exceeded by more than 15%).
- transgenic varieties and breeds	Not used	Used moderately	Used widely	Transgenic and introduced plants are either excluded at all or do not significantly affect the structure of cultural phyto- and zoocenosis.
-particularities of consumption of agricultural products	Prevailing abandonment of animal proteins in favor of plant	The diet is close to the current one	The diet is "distorted" towards the further growth of animal protein consumption	The diet is balanced and meets local traditions
Basic structural materials (and mineral resources)	Secondary	Primary and secondary in the development of resource-saving technologies	Replacing exhaustive resources with their new equivalents	Replacing exhaustive resources with their new equivalents that are capable of biodegradation after the end of use
Pollution of the environment	Minimal, due to the closure of all environmentally-polluted industries and the implementation of non-waste technologies	Stays at the current level	Moderate, due to low-waste technologies, improved treatment facilities and disposal of highly hazardous waste	Minimal reduction of the general level of consumption,due to dezurbanization, transition to new construction materials, and the introduction of a significant share (up to 40% of GDP) of the economy.
Biodiversity protection	Complete retention	Saving a bigger part	Saving 50-70%	Gradual abandonment of agro ecosystems in their modern form in favor of adapted forms of nature management
The share of protected natural territories on the planet	70%	33%	Less than 10%	The need for the implementation of protected areas gradually disappears

For the practical realization of the concept, a model of socio-natural interaction was developed, based on the principle of spatial rotation of the functions of agro- and urbo-ecosystems with the desire not to barrier but to the contact (ecotone) type of boundaries between natural and anthropic components (Son'ko, 2019). In this case, the main direction of the interaction of nature and society is radically changed from anthropocentric to adapted one. Taking into account the main content of the foregoing concept, we have to agree with the opinion of K.S. Losev (Losev, 2003) and V. G. Gorshkov (Gorshkov, 1995) that the main guarantee of the "noosphere" (sustainability) of nature should not be quotas for carbon dioxide emissions (Kyoto Protocol), but the successes of support of the mechanism of self-reproduction of natural ecosystems in certain countries.

As for the agroecosystems, according to current estimates, the emission of carbon (as the main contributor to the greenhouse effect) from world agriculture by 10% exceeds its emissions from the combustion of fossil fuels (Losev, 2003). Consequently, modern agriculture is the main contributor to the greenhouse effect, and this impact continues to grow in the context of deepening the economic and demographic crisis. The practical solution to these contradictions is the rebirth in the rural areas of such communities of people who, by the type of their spatial existence, would be close to natural ecosystems. A radical change in the spatial existence of mankind in the direction of a natural economy helps to stabilize population growth, as well as make the use of nature adapted to natural ecosystems.

Conclusions.

The main conclusions of our study come from the title of the article. The steady exacerbation of the global environmental problem confirms the complete failure of the concept of sustainable development in its modern edition. The proof of this is the refusal of many countries to sign the Kyoto Protocol. It turns out that "sustainable" development is possible only with the artificial redistribution of natural, economic and other resources in favor of countries that are at the top of the pyramid. However, immediately we need to ask ourselves a question - at the expense of what (or who) such a "development" is possible? According to K.S. Losev, the approach put in the Kyoto Protocol is fundamentally wrong: not only quotas for reducing emissions from fossil fuel combustion are so important, but the quotas for the share of the restoration of natural ecosystems.

The existing approach benefits developed countries, which have destroyed their natural ecosystems long time ago. However, countries that have kept intact landscapes lose their preferences, and the decision taken within the framework of the Protocol is discriminatory for them. Destruction of natural ecosystems went with the aim of developing the economy, raising the standard of living and comfort. The price of this is a lost ecological resource. If any state has exhausted its own ecological resource, it is likely that the growing burden lies on the ecosystems of countries where this resource is preserved.

Consequently, it should be considered sustainable development that would leave for natural ecosystems the ability to self-reprocess. How to achieve it?

There are two ways to do this. One is conceptual, namely, the transition to a model of the world economy that is closest to the principles of physical economics, which was developed at the end of the 19th century by the Ukrainian economist S. A. Podolinsky and adapted to the present conditions by V.P. Pis'mak. The basis of these workings is the idea of two types of substance - non-entropies or the substance that contains passive atomic energy and entropics - a substance that allows the transformation of energy in production.

Thus the aggregate volume of the used mass of the substance remaining at the disposal of human in the form of products of long-term use, is always less than the amount of matter naturally extracted from. In this regard, one quantity of goods of a certain quality in the market "costs" differently in comparison with another quantity of goods of different quality, but both the first and second quality goods contain the same amount of labor spent on the production of goods, namely, radiation energy impulses, which have gone through a lot of matter from which these goods are composed. In what material volumes, the quality of one product is "worth" in comparison with another, shows the value - an abstract measure of the entropy of their productions, which finds its information display in the form of money.

The second way is connected with the change of spatial existence of the human population. The basis of this approach is the idea of the various types of mediation of the geographical space, characteristic of industrial (passionary) and agrarian (traditional) civilizations. In the first case, urbanization with all the consequences emerges at a very fast pace; in the second, settlements are formed, the type of material-energy exchange closest to natural ecosystems.

References.

Christaller, W. (1967). Central Places in Southern Germany. Englewood Cliffs.

Girenok, F.I. (1987). Ecology, civilization, noosphere. Science, 28.(in Russian).

Gorshkov, V.G. (1995). Physical and biological bases of life sustainability. Moscow. (In Russian).

Hettner, A. (1927). Die Geographie, ihre Geschichte, ihr Wesenundihre Methoden (The geography, its history, being and methods). Ferdinand Hirt, Breslau. (In German).

ICED (1989). "Our Common Future": Report of the International Commission on Environment and Development (ICED). Moscow, Progress. (in Russian).

Kazakova T.A., Shiyan, D.V. & Sonko, S.P. (2017). The old industrial region of Krivbass in the post-industrial economy: the thorny path from geology to man-made tourism. Gomel University, (3), 25-34.

Korsak, K. & Korsak, Y. (2012) Nootechnologies - the basis of positive eschatology and sustainable development. Relga Electronic journal, 15 (253), 59-62.

Kovalev, O.P. (2003). Regional development: A look at a hundred years ahead. Regional perspectives, (7-8), 3-11. (In Ukrainian).

Lakomova, O. Y. (1999). Socio-geographical aspect of regionalpolicy. Ukrainian Geographic Journal, 2 (26), 15-19.

Losev, K.S. (2003). Anthropogenic carbon budget and the role of ecosystems in its emissions and runoff on a global and continental scale. / Countries and regions on a path to balanced development. Collection of scientific papers. Kiev, Academpperiodika, 36-41. (in Ukrainian).

Mironenko, N.S. & Sorokin, M.Yu. (2001). Factors of compression of geographic space. Geography, 48. Retrieved from http // geo.1september.ru.

Son'ko, S.P. (2016). The concept to spatial redistribution in modern subject filed social geography. Human Geography Journal,21 (2), 7-11.(in Ukrainian).

Son'ko, Sergiy. (2019) Manin Noosphere: Evolution and Further Development. Philosophy and Cosmology, 22, 51-74. DOI: https://doi.org/10.29202/phil-cosm/22/5.

UAAN (2015). The Conception of the State Program for Sustainable Rural Development of Ukraine for the Period until 2025 Retrieved from http://uaan.gov.ua/.

Ursul, Ar. & Ursul, T. (2018). Universal (Global) Evolutionism. Philosophy and Cosmology, 20, 33-41. DOI: 10.29202/phil-cosm/20/3.

Yablokov, Al. & Levchenko, V. (2017). The Biosphereas a Living System 1. On the Harmonization of Human and Biosphere Relationship. The journal philosophy and cosmology, (18).52-83.

Chapter 3. MANAGEMENT, ECONOMICS AND SERVICE

Tetiana Ostapenko
Ph.D in Economics, Associate Professor,
National Aviation University,
Kyiv, Ukraine

NANOECONOMY IN UKRAINE AS FACTOR OF SUSTAINABLE DEVELOPMENT

Abstract. *Sustainable development is the basis of the functioning of national economic systems. In these systems there is a level such as nanotechnology, which has the main subject of a person. Sustainable development is formed at the level of enterprises and states, but its formation at the level of an individual is a problematic issue that should be considered within the framework of the pet economy, human economy and the economy of nanotechnology. In the conditions of the establishment of the baby economy, it is expected that children will be taught and formulated with a thriving attitude towards the environment. An adult should have the ability and knowledge about environmental protection in any field of activity. Technologists have to develop and implement nanotechnology solutions for various industries.*

JEL Classification: D11, F63, I31, L6, O1

Introduction.

Sustainable development is defined as a form of interaction between society and nature, which ensures the survival of mankind and the preservation of the environment. Generations of mankind provide their vital needs, without depriving future generations of opportunities to meet their needs. Under such circumstances, a green economy mechanism is introduced that saves and uses human resources and produces environmentally-friendly products and services. The goals of sustainable development in any country are: economic growth; preservation of the environment; health care; justice; sustainable use of natural resources; education development; Participation in the formation of a global system of environmental safety. It should be noted that ensuring sustainable development is the core of the formation of national security on the basis of timely prevention of the emergence of potential threats. But the list of tasks of sustainable development of countries according to national priorities is: regarding environmentalization of social relations and preservation of the environment of human life - activities aimed at realizing the right of citizens to a safe environment for life; regarding the social component of sustainable development - creation of conditions for the full enjoyment by citizens of the right to work, guaranteeing equal opportunities in choosing a profession and kind of employment, setting pensions and other social benefits that could ensure a high standard of living; regarding the integration of environmental policy in the strategy of economic reforms - activities aimed at structural adjustment in the field of material production.

The means of transition of the country to sustainable development are: introduction of monitoring of sustainable development, the main task of which is the collection, study and preparation of information for the analysis of indicators that determine the quality of life and natural resources, as well as the state of the economy and the environment.

The specific mechanism for achieving this is to identify the areas of development of the state environmental monitoring system, and to introduce monitoring of sustainable development through the establishment of appropriate indicators, which information is provided annually in the National Report on the state of the environment. The priority tasks of sustainable development can be considered as follows: Effective and balanced use of natural resource potential; the basic principles of economic reform in the context of sustainable development; social sphere; education, science, culture.

Note that all these priority tasks of sustainable development depend on the conditions of activation and formation on the economy. The latest phenomenon - nanoeconomy - requires the disclosure of content, consideration of both the system and the isolation of its structure. Note that the structure (from the Latin structura - structure, placement, order) - is a set of stable the connections of the object, which ensure its integrity and identity to itself, that is, the preservation of its properties with various external and internal changes. Investigates the different structures and their development of such a direction of philosophy as structuralism. Consequently, structuralism, as a direction in humanitarian knowledge, is associated with the use of structural method, modeling, semiotics, formalization and mathematization in linguistics, literary criticism, ethnography, history, etc. Object of research of structuralism - culture as a set of sign systems (language, science, art, mythology, fashion, advertising). The basis of the structural method - the discovery of the structure as a relatively stable set of relations; recognition of the methodological primacy of relations over elements in the system; partial distraction from the development of objects.

Thus, the structure of the economy is its structure, which, according to the author, consists of elements, subjects and levels - the central relations of the system of nanoeconomy, process and management and regulation mechanism. In fig. 1 depicts the structure of the economy, a description of which will be given below. We begin the study of the structure of nanoeconomy from its central level - a person. Man - the highest degree of living organisms on Earth, subject of socio-historical activity and culture. The essence of man - a set of all social relations. Man arose on Earth as a consequence of a complex and long historical-evolutionary process. Man is the center of the universe and the question arises: "What is the mission of man on this earth?". These philosophical questions become the centerpiece of human studies as the main subject of the nano-economy. The relationship between nature and economy in a sustainable development depends on a system such as nanoeconomy. The main components of the study of the impact oneconomy on sustainable development are the following: the main problems; purpose and principles; goals and ways of transition of the country to sustainable development; mechanisms (ways) of transition of the country to sustainable development; stages of transition to sustainable development; Expected results; assessment of financial, logistical, labor resources.

Deepening the analysis of the development of globalization requires the elucidation of the factors that shape it.

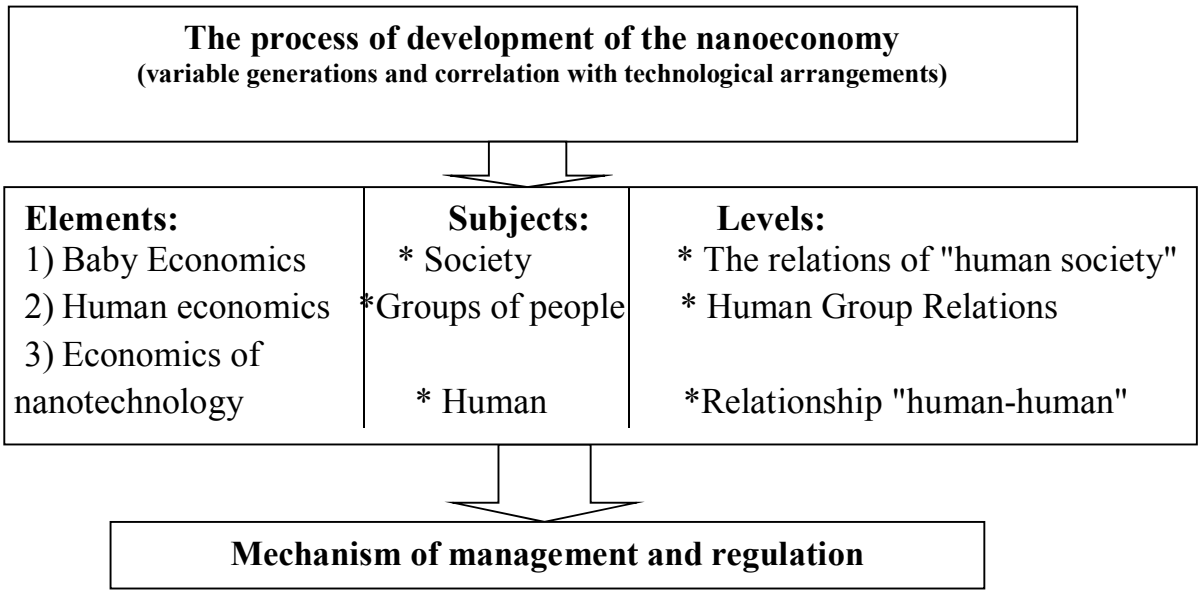


Fig. 1. Structure of nanoeconomy (compiled by the author)

1. Babyeconomy in Ukraine as a Basis for the Formation of Sustainable Development

Such factors are formed at different levels of the world economy, namely: mega-; macro-; micro-; meso- and nano-. Mega-factors are objective factors of the international environment, which include the activities of international economic organizations and the functioning of transnational corporations. Macro-factors are determined by the state as a subject of international economic law. The meso-level is represented by the activities of industries and internal regions, and the micro-level is the activity of enterprises and organizations. Nano-factor, which includes the extreme manifestation of the micro-level, and the very activity of man as an economic object. Nano-factor forms such a section of economic science as a nano-economy. In turn, the nano-economy depends on its components, such as the baby-economy (when the activity of a person depends on how the person in childhood was brought up, which will determine her intelligence in later life); nano-economics (a person as the main agent of economic activity, on which depends the effectiveness of the economic behavior of enterprises, industries, states and international organizations); the economy of nano-technologies (as an analysis of human activity that develops and implements nano-technologies as the crown of human self-realization).

G. Kleiner (Kleyner, 2004), a Russian scientist-economist, has determined that one of the approaches to understanding the nano-economy is the interpretation of the features of its component - the baby-economy. Hodovana T.L. (Hodovana) focuses on the formation of the economic thinking of junior pupils involved in the basics of economic literacy in which the new economic thinking is formed, acquainted with the surrounding lives of people and animals, their needs and ways of their satisfaction, economic laws, and creates the basis for further study of economic disciplines at primary and high school. In this case, the baby-economy can be considered as the economic behavior of the child.

Aristotle defined the economy as a system that makes good for its citizens. Note that the baby-economy is a component of the economic system, which, along with the use of certain resources (physical-natural, social) in childhood, leads to the formation of a person that, based on creative behavior in adulthood, forms and produces benefits on the basis of the formed knowledge and skills . Thus, for the baby-economy, the process of growing up and using the conceptual-terminology apparatus of age psychology is characteristic for the baby-economy. In addition, it's a good idea to use economic categories to study the baby's economy, because the baby-economy is a component of economic science.

Thus, the process of growing involves the transition of states from a newborn child, a preschooler, a junior schoolboy, a student of high school and a student of a senior school. It is known that the process is the transition of states and phenomena from simpler to more complex, from less to greater, and so on. The process involves the use of certain input resources and the production of certain benefits at the output. For the baby-economy, the process of growing up involves the process of forming an economic behavior for an already grown man; This process begins with the use of certain resources, namely: internal factors that are natural. Such resources are used to ensure the formation of active economic behavior, they should include: heredity derived from parents; living conditions, whether in the family or in the orphanage; a sense of security; the possibility of early education, in particular the Montessori kindergartens; socialization, which depends on the early incorporation of the child into a relationship with the outside world; opportunity to engage in creativity independently or in a group; influence of external factors of the environment, in particular the economic situation in the country and the world, political imperatives, legal conflicts, etc.

The main problems of sustainable development are solved due to the influence of the baby economy. Yes, all the skills are laid in childhood and environmental skills in particular. Save money on natural resources and sort garbage, cautiously treat animals (both wild and domestic) to monitor their own health, etc. This is a small list of tasks that raise up education and training in different institutions. Environmental conservation is the guideline that should be highlighted in various curricula. If this training on a chemist or physicist is a direct awareness of the environmental friendliness of being, if it is sociology or psychology - then the formation of skills is not littered and beings, and society.

In high school and universities, disciplines related to the sustainable use of natural resources should be taught: any matter should be ecological (both physically and mentally). First of all, students must learn how to solve health problems, because being healthy is a task of life and quality of life. In universities, such disciplines as safety of life have been introduced, but the formal attitude of teachers and students to it has led to the abandonment of it, although education in any field should contribute to the development of environmental friendliness and the foundation of sustainable development.

The statistics of Ukraine will show such data on admission of students to the initial and final cycle of training in 2017 according to the directions of preparation (bachelor's degree) - tabl.1.

Table 1. Admission of students to the initial and final cycle of study in 2017 according to the directions of preparation (bachelor degree)

Training direction	*Number (thousand persons)*
Bachelor total, including:	1073
Teacher education	5
Humanities	5
International relations	1
Economy and entrepreneurship	332
Law science	109
Management and administration	51
Natural Sciences	10
Agriculture and forestry	104
Fisheries and aquaculture	3

Source: Statistical collection "Higher education in Ukraine", 2017.

As can be seen from the table, the main areas of training are economy and law, but also natural sciences, agriculture and fisheries are also popular. The young generation chooses these areas of learning consciously and this is the prospect of sustainable development in our country. The aim of the sustainable development of the beebeeconomy in Ukraine is to create a representation of the younger generation about sustainable development for the conscious choice of natural professions and the choice of other professional areas in conjunction with the understanding of the relevance of environmental protection.

The constituent structure of n economy is the principles. Principles are guiding ideas in the development of certain phenomena. Thus, the principle (from the Latin principium - the beginning, the basis) (Prokhorov, 1985) is the main source of a certain theory, doctrine, science or world outlook. It is also the internal conviction of a person, which determines his relation to reality, norms of behavior and activity. And one more definition is the main feature of a device of a certain mechanism or device.

Through the principles of education of the individual pass all the individuals, because the child becomes a mature person just in the process of education. These are the main principles of the beebeconomy, namely: humanization and democratization of the educational process; connection of upbringing with real life; education of a person in a team during social activity; the unity of the requirements and respect for the individual; conformity to age and individual characteristics of students; consciousness, amateur activities and activity of students, etc. These principles involve the formation of a trained person who adequately perceives the world and is ready for creative activity in adult life.

Principles of mental development involve the formation of a mature person, which takes place throughout life. It is possible to change psychological guidelines even in adulthood, psychological development of personality is a continuous activity of mind and personality.

These principles include: the development of the psyche; determinism; historicism; evolution; unity of psyche and activity; system-structural principle; reflection; the determining role of practice in psychological cognition, etc. The quality of nanoeconomy is a continuous process of psychological knowledge of individual individuals, the more mature individuals shape the world economic relations, the more actively develop n economy in the global environment.

Also, the principle of personality development are the principles of socialization, as the ratio of an individual with a society. Such relationships begin in childhood and continue throughout life. Nanoteconomy is responsible for the economic behavior of individual individuals, and this behavior is based on the relationship of personality with society. These principles include, in particular: systematic; activities; bilateral interaction of personality and social environment; personal activity and selectivity.

Principles of relations between the child and nature can be such principles as: Priority of environmental safety requirements for the younger generation; Ensuring environmentally safe environment for children's life and health; Participation of children and adolescents in preventive measures concerning the protection of the environment; Participation of children and adolescents in preserving the spatial and species diversity and integrity of natural objects and complexes; Introduction of scientific substantiation of harmonization of ecological, economic and social interests of society; Formation of skills for environmental impact assessment; Understanding of publicity and democratization in decision making in adult life, the implementation of which will affect the state of the environment.

Considering all set of principles of sustainable development of beebeconomy, we note that they are the principles of personality development as the main agent and subject of nanotechnology in a changing global environment as a whole. These are the principles of education of conscious specialists, for whom sustainable development is a program of action for the formation of optimal relations in society between man and nature.

The ways of the transition of the baby economy to Ukraine towards sustainable development are emerging in the present. To such ways we will carry:

1) The transition of preschool education and upbringing to conscious environmental content - the delegation of the functions of upbringing the garden involves the fact that there should be a program of upbringing the environmental friendliness of life and understanding of the diversity of the environment;

2) Formation of competences for environmental protection among schoolchildren in secondary school education - it is known that competencies are formed at schoolchildren from the seventh grade of high school, when a teenager choosing the specialization of his training must understand that any specialty provides an ecological basis;

3) Identification of the training paths of specialists in sustainable development in the curricula of higher education institutions - today environmentalists are trained at the natural

sciences faculties of universities, but no specialist in sustainable development prepares any institution;

4) Formation of the system of beebeeconomics with the features inherent in the economy of sustainable development - all changes should be systemic, when single actions will not be sufficient to shift the landmarks.

Mechanisms (methods) of the transition of the beeconomy of Ukraine to sustainable development can be considered as a system of instruments that are intended to transform the movement of one or more bebysubjects into sustainable development in the economic environment of the country. Such mechanisms include: education, training, skills development, the creation of appropriate educational institutions, their transformation into a system, parenting in relation to conscious environmental friendliness, and the conditions for building households on an ecological basis.

The stages of transition of the baby economy of Ukraine to sustainable development can be considered as follows:

I. The stage of reforming pre-school and secondary school educational institutions in the formation of consciousness of sustainable development in children;

II. Creation of educational directions at universities in relation to sustainable development, where not only ecologists (on axial biological, chemical or geographical education) but also economists on introduction of sustainable development at enterprises of different forms of ownership, as well as sociologists or lawyers on the environmental direction of social development and rights;

III. Formation of the system of beebeconomy, built on the general principles of sustainable development in the country, in the enterprise and in the consciousness of the individual.

Expected results on the formation of sustainable development in the country and in the system of beebeeconomy can be:

- Formation of the consciousness of sustainable development in younger children who are brought up in a kindergarten (do not throw away, do not leave unassembled places of stay, feed animals in the winter, take care of dead animals at the year-end, show an example of conscious attitude to the environment to other children);

- Acquiring environmental skills at school when there is an understanding of how to fire a fire, where children are garbage after being in the wild, which basic chemical reactions emerge after the combination of certain reagents, the age of the decay of certain substances in the environment, etc .;

- Training of higher education students in sustainable development that can answer the following questions: how the landscape will react to pollution, how biodiversity (plants and animals) will behave under such pollution conditions, how to calculate environmental safety indicators for enterprises - the main pollutants of the environment etc;

- Creation of a system of sustainable development - one that is called on all levels and actors to form a conscious attitude to the environment.

Note that environmental protection activities in Ukraine are characterized by different indicators, in particular, Table 2 shows the level of environmental protection costs by type of environmental measures in 2017.

Table 2. Costs for environmental protection by types of environmental measures in 2017(in actual prices, ths. UAH) *

Types of nature protection measures	Total
Total	31491958,5
including:	
Protection of atmospheric air and climate change	4712301,7
Cleaning of return water	9341782,6
Waste management	9979183,2
Protection and rehabilitation of soil, underground and surface waters	2268283,8
Reduced noise and vibrational impact	696443,7
Preservation of biodiversity and habitat	944563,7
Radiation safety	3114089,4
Research works of environmental protection	89267,0
Other areas of environmental activity	346043,4

Source: Ukrstat (2017)

It can be seen from Table 2 that significant resources are spent on environmental protection, but the funds for research activities of environmental protection are insignificant - UAH 89267.0 ths. It is also about a system of education, in which such work is carried out. Obviously, it is necessary to finance this domain in the amounts that are required by individual territories and institutions. The decentralization of payments to the environment is the basis that will help solve this issue.

2 Human Economics in Ukraine as a Factor for Sustainable Development

Achieve positive results in the n economy allows the activities of entities. The central subject of nanoeconomy is a mature man, this subject can carry out various types of activity: economic, scientific and technical, social, political, etc. The main lever of the nanoeconomy is the scientific and technical activity, because it depends on it the evolution and development of society. At present, the results of evolution are the development and implementation of nanotechnologies, which are a kind of high technology, pushing the economy to new levels of development. Investigating nanotechnology it is necessary to study the economic behavior of man, which manifests itself in its applied ideas. Let's dwell on the basic principles of the formation of the very economic behavior of the individual.

Human behavior is the basis of the formation of economic systems at different levels: both management and national economies, and international economic relations, and the global economy. Since this component depends on the quality of management in enterprises, the human factor plays a special role in the management of national economies, and, of course, the quality of global systems depends on the evolution of the individual.

The subjective factor is increasingly playing a leading role in shaping productive international economic relations. The problem is that the smallest part of them - a person,

affects megaeconomic relations, that is, international economic relations, in the direction of the formation of a new level - nanoeconomy.

It should be noted that human behavior is a psychological and social category, and from this point of view, the well-known scientists have devoted to it their research and development: M. Chiksentmikai, V. Frankl, A. Maslow, F. Zimbardo. Problems of individualism in the economic development of various systems were solved by such scholars as F. Hayek, R. Lewis, JP Murdoch, J. Rokich and others like that. But the question of the impact of economic behavior of people on the development of international economic relations in full is not paid sufficient attention in the works of foreign or domestic scientists. This question, in our opinion, is gaining increasing practical significance.

Human behavior has a consistent effect on the elements, entities and levels of IEC and global high tech markets. But in order to outline the boundaries of such influence, it is necessary to bring forth the interpretation of human behavior and the relationship with the evolution of the individual in the nanoeconomy

Human behavior consists of a large number of factors. Mihai Cheksentmikhayi (Cheksentmikhayi, 2013) in his work, "The Evolution of Personality", states that the main factors of personality development and its behavior are instincts, cultural values and their. The instincts foresee heredity and the genetic background that determine the specifics and characteristics of the individual. The cultural aspect of personality development implies that human behavior depends not only on the imitation of genes transmitted from parents and grandfathers, but also on the cultural context that is filled with the habitat of an individual. The author also notes that the mind, which realized its autonomy, allowed an individual to perceive himself as an independent person with his own interests. It has a restrictive character, when from its inception the main goal is set - to protect itself in any way (Cheksentmikhayi, 2013).

The concept of human behavior is related to the interpretation of what we call the term "human person". According to William James, "human personality is the totality of everything that he can call his own, not only the body and mental forces, but also clothing and home, wife and children, ancestors and friends, reputation and work, land, horse and bank account" . It should be noted that the more a person is identified with external objects, the more vulnerable it is. Human behavior is complex and depends on the orientations that pose a person throughout his life. The well-known Maslow theory characterizes the fact that the level of personality development and its behavior depends on those motives that are inherent to this individual. If - it is a satisfaction of physical needs, then, respectively, the person is not characterized by a high level of development and active participation in the social process. But the person who sets himself the goal of self-realization and self-improvement, forms high indicators of his development and stay at the highest stages of the evolution of society, and the behavior of this person will determine the direction of the movement of society.

Such behavior should be characterized by diffusion, since the more people are on the top of Maslou's pyramid (Maslou, 2011), the more reason to call this society highly developed. Lower ranks of social development (for example, tribal life in Africa or the Amazon) indicate that their level of development is not high enough. And it should be noted that the greater the diffusion of high levels of behavior, the more opportunities for this society to move to another level. The complexity of social relations and human behavior leads to the spread of a certain lifestyle inherent in the Christian community of the world community. The sacrifice of early Christians and the urge to human eating and his life have led to the so-called Western way of life as a standard of life's landmarks. Even Shintoists in Japan and Buddhists in Thailand form a society oriented towards Western values. But, for the sake of justice, it should be noted that this Western type of life also has negative features, in particular, the consumer approach to life, when the accumulated benefits, according to W. James, is also a side of the development of personality and its behavior.

High self-organization implies the impact oneconomy on sustainable development. The main components of such influence are the definition of the main problems, the ways of transition to sustainable development, the mechanisms of transition to sustainable development, the stages of this transition and the expected results.

The main problems of the interaction of human economics and sustainable development are as follows: Formation of human behavior aimed not at protecting the environment; Formation of the decision-making system in the environmental field; Establishing a system of enterprises with a leading ecological component; Formation of industries and national economies on the basis of an active ecological element.

Thus, the formation of human behavior aimed at protecting the environment implies that it must be represented by the reactions of individual individuals to adapt to the environment, namely the environment. These reactions can be positive and negative, positive, in particular, determined by the positive impact on the environment - when individual experts adjust their behavior for the development of positive indicators of this environment. For example, when the company reduces emissions into the atmosphere or when noise protection is carried out. Negative reactions, such as the use of which also reduces the negative impact on the environment, so lower production rates in connection with the introduction of energy-saving technologies, which are very expensive and time and resources are needed for their implementation.

Formation of the decision-making system in the environmental field. Yes, the existence of any organization is associated with the development, adoption and implementation of management decisions. From what management decisions are developed and implemented depends on the current and perspective competitiveness of the organization, the effectiveness of its activities. And today, competitiveness can not be achieved without an active stance on sustainable development. And decisions should be

systemic rather than isolated, the environmental impact requires environmental decisions taken with the use of all the rules inherent in system management.

The creation of a system of enterprises with a leading ecological component involves the use of diffusion, when it is known that technology develops and heats the environment in case of their distribution. Thus, the ecological component of the development of the enterprise system should also be widespread (diffusion) in the economic environment of a particular country. The more companies use environmental technologies, the more the efficiency of individual enterprises and their systems within the national economy.

The formation of industries and national economies on the basis of an active ecological element is determined by the fact that the system of environmentally conscious enterprises spreads its assets to all the environment of a particular country. It has bits of support for sustainable development at the state level and an environmental policy has to be formulated. Statistics in Ukraine show which industries spend the most on environmental protection, as shown in Table. 3

Table 3. Costs of environmental protection by types of economic activity in 2017

Activities	Expenses UAH
Total	31491958,5
Agriculture, Forestry and Fisheries	428932,6
Mining and quarrying	5968063,1
Manufacturing industry	8004738,4
Supply of electricity, gas and air conditioning	6148762,3
Water supply; sewage, waste management	6523328,2
Construction	19080,9
Wholesale and retail trade; repair of motor vehicles and motorcycles	1411580,6
Transport, warehousing, courier activities	576360,3
Temporary placement and organization of food	7860,3
Information and telecommunications	458,9
Financial and insurance activities	21641,3
Real estate operations	118850,7
Professional, scientific and technical activities	232826,3
Activity in the field of administrative and auxiliary services	242339,8
Public administration and defense, compulsory social insurance	1382380,7
Education	7014,2
Health care and social assistance	15092,8
Arts, sports, entertainment and recreation	367830,2
Provision of other types of services	14816,9

Source: Ukrstat (2017)

As can be seen from Table. 3, the largest spend on environmental protection processing industries, the extraction and supply of energy and gas. Of course, all these industries are sufficiently harmful to the environment in which they operate. But other areas of activity should also take care of the environment and transfer these costs from the category "necessary" to the category "we wish".

The ways of the transition of the human economy to sustainable development are determined by the need to formulate common approaches to environmental protection both at the nanoscale level and at the mega-meta-levels. This circumstance helps to move from the lack of environmental friendliness to sustainable development. A person, as a specialist,

with a conscious system of making managerial decisions should move to the practice of making these decisions with a certain degree of environmental friendliness. So, if a decision is taken on the introduction of a new production line, then there should be a decision on a thrifty approach to the environment (whether this technology contaminates the environment).

The list of ways of transition of the human economy to sustainable development is as follows:

- Determination of the interplay between the human economy and the economy of enterprises, industries and states to determine their impact on sustainable development;
- Determination of motives for implementation of sustainable development as a philosophy of being;
- Outline of management nanofunctions that could affect the formation of sustainable development at the enterprise and household level;
- Outline of competition in the industry that could highlight the direction of improving sustainable development in the country;
- Formation of macroeconomic development nanofactors that may affect sustainable development;
- Definition of approaches to the diffusion of those managerial decisions that would lead to sustainable development and nanoeconomy, and megaeconomy.

The mechanisms (methods) of transition toeconomy to sustainable development can be attributed to such tools that adapt the human economy to sustainable development of the environment. On the way out, we have to get a conscious economic system based on nanoeconomic approaches in the protection of the environment. At the input, resources should be spent that could lead to positive performance values (when revenue is more than cost). So, to the mechanisms of transition of the human economy to sustainable development, let's take:

1) Use of economic instruments for sustainable development: scale effects, effects and indicators of the effectiveness of implemented measures and profitability of environmental activities;

2) Use of legal instruments of influence on sustainable development: formation of norms and principles of human behavior in the field of sustainable development;

3) The use of political levers of influence on sustainable development: the formation of green blocs in parties and public associations, and a consistent approach to individual politicians as representatives of the opinion of a part of the electorate;

4) Use of social levers of influence on sustainable development: when everything that is happening in the society should have environmental elements. After all, a person, of any social affiliation, must understand the possibilities of sustainable development and environmental friendliness of life in general.

These tools and levers will be the benchmark for sustainable development from the standpoint of the human economy. An expert or a person with a responsible civil position can not be considered as such without ecological approaches to making life and management decisions.

In addition, we can distinguish the following stages of transition of the human economy to sustainable development:

I. The transition of an individual to sustainable development;

II. Transition of the immediate environment of a person (household or enterprise) to sustainable development;

III. The transition of the whole national economy (the center of people, their groups and their integrity) to sustainable development.

These stages of the transition to sustainable development are determined by a certain sequence of actions when, initially, individual individuals should receive support for the environmental friendliness of thinking and active action, this should also affect the formation of the ecological philosophy of being at the enterprise and household level, and with the rest - at the state level, should be a uniform ecological policy on sustainable development has been formed as a national philosophy. Expected results of such a transition of the human economy to sustainable development should be the increase of labor productivity at the level of the employee (human economy), enterprise or state and parallel reduction of the load on the environment. Such influence should be spread from high technology in the nano-environment

3. The economy of nanotechnology in Ukraine as a consequence of the development of nanoeconomics in a context of sustainable development

In the fast-paced world of high technologies, the global economy is forming. High technologies are changing quite rapidly and today they are represented by nano-technological solutions. Nano-technologies are gradually spreading around the world and simultaneously form the corresponding nano-economy. In modern conditions, it is the formation of a global economy of nanotechnology that has its own characteristics. Understanding the signs of such an economy will allow them to react in a timely manner to changes in the world and accept transformations for the development of national economic systems and their innovation complexes. In addition, nanotechnology is different from nanoeconomy. We emphasize that nanotechnology includes the economy of nanotechnology, as a result of the development of a child and the formation of a person of an economic one. It is the highest level of creativity, when a creative person lives not only for the sake of improving the quality of life, but also for producing the latest knowledge, both fundamental and applied, which should improve the life of society.

The first who introduced the concept of nano-techology was Eric Drexler (Svidinenko, 2018). After him, various scientists, in particular the American physicist Richard Feynman, the American physicist Norio Thanihuchi (Kireyev, 2008), authors of the new theory of nanotechnologies, who discovered a new class of compounds - Fullerenes, Robert Kerl, Harold,

paid attention to the development of nano-technologies. Krotto, Richard Smolly and received the Nobel Prize in 1996 (Kireyev, 2008). In Ukraine, the pioneer of this area is the academician of the National Academy of Sciences of Ukraine Naumovets Anton Grigorievich, who became the founder of the collection of scientific works "Nanosystems, Nanomaterials, Nanotechnologies", which was issued in 2003. Such popular scientists as Kireev V. (Kireyev, 2008), who outlined the history of the creation and development of nano-science, Yu. Svidinenko (Svidinenko, 2018), who characterized new projects in the field of nano-science, V. Balabanov, I. Balabanov, became popularizers of nanotechnologies, (Balabanov, 2017) who are familiar with nanoscience and are focusing on promoting nanoscience advances. In addition, along with nano-technologies, the direction of economic science, such as the nano-economy, which was initiated by Kenneth Arrow (Arrow, 1987), was developed and grounded, and G. Kleiner became the successor (Kleyner, 2004).

The problem of the existence of nanotechnology today is actively solved, but the nano-economy is a phenomenon that is actively explored and the interpretation of its main concepts and categories. Note that nanoscience and nanotechnology are related, and this connection is given attention in this study. So, the nano-economy consists of baby-economics, human economics and nano-technology economics. This approach to how technologies affect sustainable development and environmental friendliness determine the modernity and efficiency of technological solutions.

In terms of forecasting the sustainable development of various components of the global economy, the dynamics of technical and economic development of the world, countries, regions, industries, enterprises and individual individuals should be foreseen. Here, first of all, urgent approaches can be - long-term, medium-term and short-term. The long-term dynamics of sustainable development are characterized by wave-like changes, when after a rise there is a decline. The medium-term approach to sustainable development is determined by cyclicality within the industry, and the short-term dynamics of sustainable development are a change in the stability and decline occurring in individual enterprises. The author of the article is attached to the economic cycle as a period of life of an individual and a generation of people - on the one hand, the cycle of life and the sustainable development of a separate technological solution, especially nano-decision - on the other.

The short-term cycle includes a nanocycle, the medium-term includes a nanocycle and a short-term cycle; the long-term includes all variants of economic dynamics - from nano-, through short, and medium-term cycles. Technical and economic development involves the whole extended process of production reproduction with the conditions for the formation of a system of sustainable development: from the birth of the technological idea, to the consumption of the final product by consumers of the vast majority of countries. The regularities of long-term technical and economic development are the laws of development of economy and ecology at different levels.

The process of extended production reproduction is described by an innovation cycle, the definition of which was proposed by J. Shumpeter (Shumpeter, 1982). So, the innovation cycle is the process of creating innovations, which are (by definition, J. Schumpeter) innovations that change the production function - that is, they result in profit. And with the use of innovation in the field of sustainable development, this replacement should touch on a thrifty attitude to the environment. Innovative cycle of nanotechnology development involves all stages of creation of nanoscience from fundamental researches to the consumption of nanoproducts:

1. Fundamental research in the field of nanotechnology (for example, biological nanosecond);

2. Applied research in the field of nanotechnology (eg nanobiotechnology);

3. Creation of practical nanotechnologies for solving a certain production problem (for example, creation of nanotext) and obtaining security certificates (patents and licenses);

4. Transfer of nanotechnologies to production (for example, technology of nanotextile should be introduced at textile factories with the modernization of technological production lines);

5. Distribution (diffusion) of nanotechnologies in the economic environment of national economies and in the world (for example, the distribution of nano-textile technologies in most textile enterprises of the country);

6. Production of the latest nano-based product on the basis of nanotechnology (for example, nanotechnology is made on the basis of textile technologies, which can be adjusted to change the health of a person wearing this fabric);

7. Set up a sales system (distribution and exchange) of a nano-product with the provision of channels for the promotion of these products (for example, advertising and public relations as a way to promote the latest products in the market, bringing the consumer's positive and negative properties of the nano-product to the consumer);

8. Consumption of nano-products by end-users (for example, the use of nano-fabric by sewing factories and clothing-consumers of such clothes) and the diffusion of nano-products in the consumer environment of the country and the world.

In order to form the concept of the transition of nanotechnologies to sustainable development, it is necessary to turn to the history of the emergence of the concept of nanotechnology and nanomaterials.

The development of nanotechnology (Kireyev, 2008) begins with the year when the German physicists Max Knoll and Ernst Ruska created an electron microscope, which for the first time allowed the exploration of nanobjects. Later, in 1951, the American physicist Richard Feynman (Nobel laureate) first published a work that evaluated the prospects of miniaturization called "There Below - The Sea of Space." He stated: "As long as we are forced to use the atomic structures that nature offers us ... But, in principle, the physicist could synthesize any substance according to a given chemical formula." Then his words

seemed fantastic because there were no technologies that would allow operating atoms at the atomic level (it means the ability to know a single atom, take it and put it elsewhere). Feynman assigned a $ 1,000 reward, so who can first put the text of a book page on the pinhead in order to stimulate interest in this area (this event occurred in 1964).

Problems of nanotechnology development are their humanity and significance for society, because nanotechnologies should be used to improve the life of an individual and their groups. Negative influence may also be a reason for refusal to use them. In addition, the following problems with the use of nanotechnologies under sustainable development can be: Humanization of nanotechnology solutions; Highly educated specialists developing nanotechnology; Impact of nanotechnologies on improving the quality of life of an individual; Influence of separate technological decisions on the environment; Dictation of the environment in the development of nanotechnologies; State support for the development and implementation of nanotechnology solutions; Rapid diffusion of nanotechnologies on an international scale.

All these problems of sustainable development and yogi dependence on the economy of nanotechnology are the basis for the mutual influence of these phenomena. Thus, nanotechnologies must be developed and implemented consciously and actively by those enterprises that are ready to take responsibility for the humanity of technological solutions. The activities of these enterprises should be based on certain principles, which should include:

1) Scientific substantiation of the normalization of the impact of economic activity on the nanoscale on the environment;

2) Free of charge for the general and paid special use of natural resources for economic activity of nanosubjects;

3) Compensation for damage from the introduction of nanotechnologies.

The paths of transition of the economy of nanotechnologies to sustainable development are those that ensure the implementation of the "blue economy". Gunther Pauli's book (Pauli, 2012) Blue Economy opens the door to a new promising industry. The innovations presented in it will be able to quickly convince business, policymakers and government officials - diverse players of the nanor market - to develop advanced science based on these new achievements. The book covers the innovative work of many scholars, including Emile Isis (Japan), Wilhelm Bartlotta (Germany), Andrew Parker (UK), Joanna Eisenberg (Russia / USA), Jorge Alberto Viera Costa (Brazil) and other leading scholars who refuse to use generally accepted knowledge. Thanks to their work, Blue Economy demonstrates that we can (taking into account the laws of nanophysics, nanochemistry and nanobiology) find ways to use renewable nanomaterials and create biased ecosystems. This is no longer a section of science fiction, it actually happens here and now.

With the proper strategy to support nanodiges and development, with promotional techniques that are distributed through market mechanisms, these nanomaterials and nanometrics offer numerous opportunities for accelerating adaptation in the event of

inevitable global changes. In turn, the widespread acceptance of the proposed Blue Economy book can be a solid ground for implementing the program under the Convention on Biological Diversity and for relevant missions of organizations such as the United Nations Environment Program and the International Union for the Conservation of Nature. Today, biological species disappears at an unprecedented pace. Many scholars believe that the world is now experiencing the sixth wave of extinction, caused primarily by economic models and human behavior that underestimates the importance of species and ecosystems for our lives and the support of the planet (Maslou, 2011).

The paths of transition of a nanotechnology economy to sustainable development may be such as the creation of such nanotechnologies that would support the environment rather than ruin it. Yes, the main transition paths can be as follows: a) Technology support at nanoscale; b) Micro-level technology support; c) Technology support for mesoforms; d) Technology support at the macro level.

The maintenance of technologies at different levels of the global economy depends on whether the relevant environment will be competitive with the sustainable development of ecosystems. There should be a combination of economic progressive action programs with strategic plans for sustainable development. Competitiveness matters when the life of an individual improves, and such improvement is possible in the conditions of ecological compatibility of the existence of individuals. The person who makes nanotechnology should understand their significance for environmental protection. If there is a combination of the wishes of the researcher and the consumer, then a priori in the output will come a technological solution that will improve the life of all subjects in the economic system.

Mechanisms for the transition of the economy of nanotechnology to sustainable development can be as follows: Legislative definition and consolidation in the legislative acts of the category "nanotechnology" and definition of directions of their use in conditions of sustainable development; Teaching in higher educational institutions the disciplines related to the development and implementation of nanotechnologies; Creation of departments of the corresponding direction in the universities of the country with the present ecological component; Conducting the training of inventors in leading universities of the country and the world with access to environmental issues; Creation of a state program on the impact of nanotechnologies on the environment; Definition of business entities that use nanotechnology as environmentally conscious business entities.

All these mechanisms have an ecological orientation, when nanoscientific inventions can be applied only in the context of a more environmentally friendly approach.

The economy of nanotechnology must, in parallel with the development of the environment, be the quintessence of scientific thought regarding the impact of nanotechnologies and other high technology solutions on the state of the environment, and must develop all directions of a sustainable environment.

The stages of transition of the economy of nanotechnology to sustainable development may be as follows:

I. Creation of a legislative environment for the development and implementation of nanotechnologies in the field of ecology;

II. Creating a business environment capable of self-development and organizing a nano-economic type of business for sustainable development;

III. Creation of a stable scientific nanoeconomic environment that could unite legislators, producers and scientists.

All of the following stages of the transition of the economy of nanotechnology to sustainable development include the possibility of forming, on the example of the innovation system, three areas: scientific, industrial and legislative (or managerial). These three areas should be interrelated and take into account the environmental component at all stages of development. So, there should be a combination of nanotechnology and environmental protection in all three areas of development.

The expected results of combining and interacting between the nanotechnology economy and sustainable development are the ability to receive financial support from the state and return investment in a short time. On the other hand, there should be a practice of obtaining funds from business entities for the development and implementation of nanotechnologies for sustainable development. The combination of science and business is also an urgent issue for the development of an innovative nano-environment, since such a symbiosis will provide the opportunity to profit from science in entrepreneurial terms.

Conclusions.

Thus, we note that the priority tasks of sustainable development depend on the conditions of activation and formation of n economy. The main components of the study of the impact oneconomy on sustainable development are:

- The main issues that are specifically addressed for the baby economy, human economics and nanotechnology economics;

- The purpose and principles of sustainable development include the formation of the concept of sustainable development in the younger generation, the understanding of the principles of environmental protection, and the development of nanotechnologies - the conscious combination of nanotechnological solutions with environmental components;

- Ways of transition to sustainable development are formed on the basis of the conditions of the transformation of the economy into the human economy;

- The mechanisms for the transition to sustainable development include a set of tools (levers) that can be used to form the direct transformation of traditional economic and innovation systems into those that are developing on the basis of sustainable development;

- Thus, the transition stages should begin with the reform of preschool and school education in order to form the consciousness of sustainable development in children, to go through the restoration of university education with the promotion of natural sciences and the creation of a system of beebeeconomy on the basis of an actively functioning external environment; in addition, the transition of an individual, his immediate environment and the

entire national economy to the principles of sustainable development should take place; as well as the transition to sustainable development should take place through the creation of legislative, business and scientific environments within the framework of the national innovation system;

- Expected results from the transition to a sustainable development economy should be the creation of a nanoeconomy system with its components, such as beveconomy, human economics and nanotechnology economics. At the same time, the least resources and the highest results in terms of environmental protection should be used.

It should be noted that sustainable development is a mission of activating the system of the nanoeconomy, when the formation of a human factor in the country's economic system should be aimed at environmental protection. And such a system of relations should gradually be formed in the global space. This question is a problem of human development in general.

References.

Arrow K. (1987). Reflection of the essays. In: Arrow and the *Foundations of the Theory of Economic Policy* / Ed.: G.R. Feiwel. – L.: Macmillan. 12, 1-17. [In English]

Balabanov V., Balabanov I. (2017). *Nanotechnologies. Truth and Fantasy*. M. [In Russian].

Chiksentmikhayi M. (2013). *Evolution of Personality*. M..[In Russian].

Hodovana T.L. (2009). *Wording of Economic Mode of Thinking of Younger Schoolboy*. Retrieved from: http://www.klasnaocinka.com.ua/uk/article/formuvanna-ekonomichnogo-myslennia-molodshikh-shk.html [In Uktainian]

Juk I.M. (Eds.) (2018). *Statistic Yearbook of Ukraine.* Kiev. Derjavna Slujba Statistiki Ukrainy. Retrieved from: http://www.ukrstat.gov.ua [In Ukrainian]

Kireyev V. (2008). Nanotechnologies: Hoistory of Beginnings and Development. *Nanoindustriya*. 2. 2-10. [In Russian]

Kleyner H. (2004). Nanoeconomics. *Voprosy ekonomiki,*12, 1-17 [In Russian].

Maslou A. (2011). *New Boundaries of Human Nature*. M.: Econimist. [In Russian].

Pauli Hyunter. (2012). Dlue Economics. 10 years, 100 innovations, 100 millions of work places.. K.: Vydannya “Risk Reduction Foundation” [In Ukrainian]

Prokhorov A.M. (Eds.) (1985). *Soviet Encyclopaedic Dictionary*. M. [In Russian].

Shumpeter Y.A. (1982). *Teory of Economic Development*. M. [In Russian].

Svidinenko YU. (2018). Nanotechnologies in our life. *Nauka i zhizn'*, 1,13-31. Retrieved from: http://www.nkj.ru/archive/articles/1239/ [in Russian]

Oliver Orlov
Doctor of Economics, Professor
orcid.org/0000-0003-1132-2999
Yevgenia Ryasnykh
Ph.D. in Economics, Professor
orcid.org/0000-0002-2440-1461
Kathryn Dumanska
Ph.D. in Economics, Associate Professor, Doctoral Candidate
Khmelnytsky National University
Khmelnytsky, Ukraine
orcid.org/0000-0002-9963-6804

PRICING FOR INDUSTRIAL PURPOSES PRODUCTS AND TARGET PLANNING IN CONDITIONS OF MULTI-PRODUCT MANUFACTURING

Abstract*. According to the results of research it has been proven that creation of flexible system of cost, profit and price management allows effective decision making in conditions of market unsteady changes. In conditions of multi-assortment production it is unreal to realize target planning of profit and prime cost and thus the system of target price planning, direct costs, marginal profit and profit margin ratio, that combines the basis of price correct changes, is proposed. Accomplishment of evaluation of innovative products efficiency on the basis of marginal profit increase during years of product life-cycle is considered in the article. Existing discount methods don't reveal process of "cash flow" formation and its presentation as summarizing income of product may lead to deviation from effective projects, discount methods assume that all prices are already known and all evaluations are carried out only in given sphere of production. But it is the price that reflects "value" of new product for consumer, because it is created for the consumer and the efficiency of innovative project must be determined by the sphere of consumption.*

JEL Classification: L11; L60; L69

Introduction.

According to competition between producers of products and the necessity of continuous improvement of providing their economic indicators, first of all profit, enterprise workers should have tools that would allow them to consider different options for prices, costs, scale of production, change of assortment structure range and, at the same time, quantitatively monitor the consequences of these changes in the economy of enterprise.

This section of the monograph examines the problems of pricing for new products of industrial and technical purpose, target price and cost planning. Two modern directions of pricing for new products are analyzed. The different views of classical political economy representatives and marginialists on the basis of price formation as are presented. Modern approaches to price formation as "cost" and "value" are considered.

Supporters of cost pricing method can be divided into two groups: the first one uses traditional methods of cost sharing (the system of "standard-cost"), the others allocate costs between types of activities (ABC method) and developed on its basis model of pricing ABP.

Attempts to set prices through allowances to variable costs or to the production prime cost (system "standard-cost") are quite subjective and often do not provide the coverage of all fixed cots and profit formation. The appearance of ABC method, according to its developers, is to overcome the disadvantages of traditional methods, because it involves the calculation of total cost, taking into account the output.

Both of these methods are based on the use of accounting data and for this reason are not suitable for price formation for new products. How is it possible to make decision on new products price development based on "posthumous information"?

The developers of the ABC method recognize that most companies use the ABC method mainly for the distribution of expenses by types of activity, and the calculation of total cost of goods by types of products is made within the limits of traditional management accounting. In addition, the ABC method is rather expensive in implementation and operation, therefore, in our opinion, it does not meet the requirements of "cost/benefit" and in the timeliness of obtaining information for making managerial decisions.

The authors of this monograph section fully support the position that it isn't necessary to the total cost of production in price formation and the fixed costs should not participate in pricing either, but this does not mean that they should not be the part of the price.

In the works of supporters of the "value" prices formation method, we didn't find an answer how to solve this dilemma. Meanwhile, the authors offer to solve it by using "*variable costs divided by one minus the profit margin ratio*", which is used in price formation. Fixed costs are not used in this calculation, but with the help of "profit margin ratio" the level of marginal profit provides the coverage of fixed costs, profit formation and product cost-effectiveness.

Actually, the "profit margin ratio" is the main tool of target planning. It is believed that the methodology of target pricing and calculation of target costs was developed in Japan and it reflects the given price level and profit. The difference between the target price and the target profit is the target prime cost, but this rather simple technology does not work under the conditions of multi-product production.

The process of target price fixing requires certain efforts in market studies, that don't cause particular methodological difficulties. As for "target prime cost" and "target profit", these calculations can be made only in conditions of one type product output.

The part of monograph contains a hypothesis that it is impossible to calculate "target prime cost" and "target profit" in conditions of multi-product manufacture, but it is necessary to calculate the target price, target variable costs and target marginal profit, that can provide certain product cost-effectiveness. The basis of further calculations for determining profit and cost-effectiveness by types of products is the proposed method based on the distribution of fixed costs in proportion to marginal profit.

1. Pricing for products of industrial and technical purpose

Recent years are marked by acute debates in the foreign and domestic economic literature on the basic character of pricing and the basic corner-stone should be considered: costs or value. Thus, the dispute between supporters of classical political economy and marginalists has moved from the field of pure theory to the practical plane.

Since the supporters of different points of view don't give any references while expressing their views on the works of classics of political economy and marginialists, it is expedient to trace the basis of these conflicting directions. One of the most prominent representatives of classical political economy J. Mill has said that: "... most of the things are naturally exchanged proportionally to the cost of their production or proportionally to what can be called the cost of expenses" (Mill, 2004).

An explicit definition of the "value" concept meaning was given by one of the founders of the "marginalist revolution" and the head of the Austrian school C. Menger. According to Menger has argued: "Benefits have always value for certain entities and at the same time they have their own value, therefore, the value is subjective not only in the essence, but also in the degree" (Menger, 2005). In this case, by Menger's opinion, the amount of labor spent on creating a benefit is not necessarily and directly related to the value of benefit.

At the end of the past and at the beginning of a new century, economic science is facing again with the main problem i.e. the cause of "poverty and wealth" of the nation. And just at this period the figure of the Austrian economist J. Schumpeter has appeared. It was Schumpeter who at the beginning of twentieth century opened in his books the limitations of the Western economic theory, which was concentrated on the problems of statistical equilibrium, and was opposite to the theory of innovative development. Joseph Schumpeter had critical view point to the economic theory that reduces everything to graphs and equations. As a source of economic progress, he considered not the abstract concepts of perfect competition, but competition between entrepreneurs. In his opinion, perfect competition does not have the right to be accepted as a model of ideal efficiency.

In the work "Capitalism, Socialism and Democracy" Schumpeter wrote: "Competition, as it should be taken into account, is a competition formed by new product, new technology, new source of supply and new type of organization". Real competition affects the very foundations of the firm existence, but not the one that determines the final goods value or its quantity advantages and affects only lower profit limits or output. "Taking into account these consequences", Schumpeter confirmed, "such a competition refers to the traditional one, as a bombardment to the breakdown of the door. Under these conditions, the degree of development of traditional competition isn't of great importance as the powerful mechanism that ensures production growth and price decreasing still have quite different nature" (Schumpeter, 2005).

The main problem of discussing the of J. Schumpeter's hypothesis, according to E. Dolan and D. Lindsey, is the complexity of evaluating innovative processes in real life. "Perhaps the most neutral conclusion that can be done considering the innovative processes according to Schumpeter", write these authors, "is that they are rather complex and can be hardly subjected to quantitative analysis" (Dolan & Lindsey, 1996).

Indeed, within the limits of ordinary competition on the basis of demand and supply, this task can not be solved. The equilibrium between supply and demand can be realized only in real practice of commodity-money relations. When the question of innovation implementation decision making is discussed they obviously do not fit into these restrictions, because these decisions should be taken long before the beginning of real commodity-money relations. In addition, it should be considered that the implementation of innovations can lead to a shift in demand and supply curves, i.e., to market disequilibrium, and for newly-made products such curves don't exist at all.

Since Menger's value is subjective not only in its essence but also in its own measure, the quantitative dimensions of utility are also subjective, and therefore it is impossible to determine the price outside the market, because there it depends on the supply. It is quite clear that the market despite on the consciousness of sellers and buyers forms market prices as a result of competition and changes in supply and demand, but when innovative product is represented, the initial prices should be formed long before the goods appearance on the market. Obviously, it can be stressed that the study of marginalists didn't come out and couldn't reach the quantitative dimension of values, therefore, they are mainly theoretical and haven't received wide practical application.

Modern supporters of the value-based approach are not at all oriented towards market pricing. "These people", as R. Dolan and G. Simon approve, "do not allow pricing for "market" or "competitors" (Dolan & Simon, 2005). But at the same time, they didn't propose methods for measuring the quantitative assessment of price limits, which should be agreed upon by economic entities.

The economic science, somehow did not notice the fact that in 1970-th domestic science, has set and solved the problem of quantitative measurement of prices limits and neither sellers nor consumers wanted it to alter.

In conditions of competition absence with state pricing it was necessary to find new methods in creation and operation of new technologies that would be interesting both for producers and consumers. Naturally, these developments require a serious transformation, as in contemporary conditions they should reflect the relations of independent entities. In general, the prices setting with economic efficiency of new equipment, when the effect is divided between the producer and the consumer, it doesn't differ from "... extracting of value, when the share of value created for the consumer, returned to the company" (Negle & Holden, 2001). But Western scholars have only recently begun to focus seriously on effective pricing. "It became important", said T. Negle and R. Holden, "only after mastering

the technology of creating and distributing the value between the buyer and the firm" (Negle & Holden, 2001). At the same time, it should be noted that, unlike domestic scientists, who provided this process in clear formalized calculations, Western scholars only consider certain aspects of this problem without providing specific formalized calculation methods.

Despite the fact that the developers of "active pricing" have some incompleteness, their ideas should play an important role in overcoming "cost pricing", but there are certain problems to overcome. Because even for large enterprises, price setting of totals cost is the most popular method of pricing. Surveys conducted in 1983 and later in 1994 among large companies showed that 82% and 70% of these companies, respectively, use a totals cost pricing method (Atkinson, Banker, Kaplan & Young, 2005). It is quit clear that if such studies were conducted for Ukrainian enterprises, the percentage would be much higher.

In practice, "cost pricing" prevails not only in most of the Western companies, but even in the Ukrainian enterprises. Such well-known scientists as C. Drury and Upchurch A., although they can notice the danger of price formation using the "cost plus" formula and consider that enterprises have to use such a scheme, though it is very difficult to fulfill economic theory in practice. C. Horngren, G. Foster, S. Datar in their work based on the full cost of production stress and describes such advantages of pricing as full coverage of all costs, price stability and ease of calculation (Horngren, Foster & Datar, 2005).

In 2004, J. Daly's book "Effective pricing is the basis of competitive advantage" was published in Russian. What is the essence of cost-pricing according to Daly? First, we can calculate the sales volume, then, based on this volume, the total cost price is calculated, and as a result, the price is formed. Thus, the price is dependent on the volume of production.

Representatives of value-based pricing (T. Nagle, R. Holden, R. Dolan, H. Simon) fallow a completely different point of view. They believe that supporters of cost-pricing are trying to impose prices, which are based on costs, and may be higher or lower than the level to which the buyer is configured.

"In the process of price setting full costs are mainly considered as basic elements", assert Dolan and Simon, and as it is often taken place in practice, "the price is determined by fixed costs", but this is logically wrong" (Dolan & Simon, 2005). At the same time, unlike the founders of the marginalist concept, supporters of active pricing do not reject the necessity to include costs in the price. Nagle and Holden note that "... the goal of the strategy based on value is to maximize the difference between the value created for customers and the company's costs" (Negle & Holden, 2001). However, proponents of active pricing in their works don't provide formalized calculations of the lower price limit, and do not mention the upper limit at all. Meanwhile, without defining these boundaries, it is impossible to divide reasonably the value of the created product between its producer and consumer that underlies active pricing.

We fully support the position of price setting and the process with the usage of full cost production, but this does not mean that fixed costs shouldn't be included in the price.

A question can arise, why in the process of justifying prices of new products for production purposes fixed costs aren't directly included? Usually it is explanted by the fact that traditional methods of allocating fixed costs distort the actual cost of production. But this is not the main reason, so there are two main reasons. The first one lies in the fact that the rationale basement of prices for new products should be started at the design stage, when it is practically possible to obtain information based on the design and developed technology only about direct costs. The second reason is that fixed costs should not be taken into account when pricing as their value by type of product depends on the enterprise activity level, changes in the structure of the product range and other factors.

Lat as briefly consider the methods of price calculation of the cost-based approach supporters. Drury gives "cost plus" type as an example of price calculation, where a 150% of allowance is applied to direct variable costs and to the sum direct variable and direct non-variable costs can be 70% (Drury, 2012). Upchurch adds 25% of allowance to the same expenses and than notes "... it is assumed that a 25% of allowance will be sufficient, but it is unclear what part of this 25% will cover non-production costs" (Upchurch, 2002). And, therefore, it is not known what part will be used to form profit. Upchurch believes that variable costs per unit of production can also be used to calculate the sales price and at the same time he notes: "... that some fixed costs will not be taken into account and that will lead to losses" (Upchurch, 2002). Obviously, in was the case that was described by Daly: "... in practice, many companies sell about 20% of their products at prices that do not cover the cost of their production" (Daly, 2004).

The main disadvantage of this approach is the absence of any objectivity in choosing the size of the allowance, so there is no certainty that this allowance will be able to cover all indirect costs.

In order to reach the price that ensures product cost-effectiveness, it is necessary to determine real relationship between the elements of calculation. And such relationship exists, as s matter of fact Western scientists don't notice that the allowance to variable costs is nothing more than the value of margin profit (*MPi*). Example used in Drury's work shows that variable costs (*VC*) are equal to 200, a surcharge of 150% and, accordingly, the price is equal to 500, Thus, $MPi = 200 \times 1,5 = 300$. And now such important component as "profit margin ratio"(*PMR*) can be calculated as division result of marginal profit to price according to the formula:

$$PMRi = MPi / Pi = 300/500 = 0,6, \quad (1)$$

PMR – profit margin ratio;*MPi* – margin profit; *Pi* ,– profit.

The profit margin ratio is the very indicator that allows you to reveal the relationship between all elements that form the price.

Taking into consideration these dependencies, the initial price formula can be represented as follows:

$$PR_{ini} = \frac{VC_i}{1 - PMR} = PR_{ini} = \frac{200}{1 - 0{,}6} = 500, \quad (2)$$

In this formula, the *PMR* must ensure the cost-effectiveness of a new product. There is another very important addiction. For one and the same *PMR* meaning the value of the initial price and the margin profit directly depends on the variable costs value for specific products, but the valuation allowance as a percentage of variable costs will be the same regardless the value of the variable costs.

Let's show it on the example from the work of Drury [6, p.381]:

VC = 200; *PMR* = 0,6; *PR* = 200 / (1 – 0,6) = 500; *MP* = 300; *VA*% = 150.

VC = 300; *PMR* = 0,6; *PR* = 300 / (1 – 0,6) = 750; *MP* = 450; *VA*% = 150.

VC = 400; *PMR* = 0,6; *PR* = 400 / (1 – 0,6) = 1000; *MP* = 600; *VA*% = 150.

And for comparison, let's do the calculation with *VC* = 200 and *PMR* = 0,8.

VC = 200; *PMR* = 0,8; *PR* = 200 / (1 – 0,8) = 1000; *MP* = 800; *VA* % = 400.

From the calculations it is clear that the main role in these calculations is played by the *PMR*. Indeed, when we have to increase the *PMR* by 0,2 with the same meaning of *VC* = 200, as the price doubled, the profit margin was increased in 2,67 times and the allowance reached 400%. It should be noted that in the economic literature the role of these indicators isn't estimated enough and in practice they are simply not used.

In the formula "PR_{ini}", the requirement of supporters of the "value" approach is fully complied with, that during pricing, fixed costs should not be taken into account, but at the same time, with the help of the *PMR*, the price lays is formed with the level of profit margin that will allow to cover fixed costs and generate cost-effectiveness depending on *PMR*, i.e the potential cost-effectiveness value is included in the calculation.

It can be especially noted that neither the cost of a new product, nor profit do not take part in the calculations. These indicators can be obtained only after the calculations for the enterprise as a whole and their values, as noted before, will depend on the level of enterprise activity, the product range structure, the fixed costs value, etc.

It is necessary to distinguish the justification of prices for a regular order and for innovative products that require significant investments in design and development. In case of release of innovative products, the calculation of the price lower limit according, to formula 2, ensures equal profit of production, but doesn't cover the costs of design and development. In order to divide the "value" between the producer and the consumer, it is necessary to determine its utility, which will be perceived by the consumer. The boundaries of prices application were accurately described in the work "Fundamentals of the Theory of Economic Benefits" by Böhm-Bawerk E.: "The relationship between subjective assessments of a thing received and given in exchange strictly dictates to each participant of the exchange to what point one can go in raising or lowering the price, and at the same time indicates the limit where he is forced to refuse further participation in the exchange" (Böhm-Bawerk, 2005).

If we don't pay attention to the "subjective assessment", we can realize that Böhm-Bawerk actually discusses the lower and upper price limits. The incompleteness of the development of active pricing supporters can be explained by the fact that they could not present the "limits" described by Böhm-Bawerk: in a formalized type. As one of the options, the formula for calculating the upper price limit can be represented as follows:

$$PR\text{up} = PR\text{low} + \Delta PR_{prem} \cdot (ARR + DR_{new}), \quad (3)$$

where *PR*up – upper price limit; *PR*low – lower price limit; ΔPR_{prem} – price premium on lower price limit (such an extra charge on lower price limit, that taking into account investments (capital expenditure) and depreciation, can be put to a level at which the buyer's effect will be zero and the buyer will refuse of the transaction); *ARR* – accounting rate of return (profit margin, interest rate for loan – as an alternative variants of capital allocation); *DRnew* – depreciation rate of new equipment.

It is also possible to calculate *PR*up using formula 2, laying in it a higher value of *PMR*. So in the example taken from the Drury's work, the lower price limit was calculated:

$$PR\text{low} = 200 / (1 - 0{,}6) = 500$$

To calculate the upper price limit, we take into account the higher percentage of *PMR* = 0,8:

$$PR\text{up} = 200 / (1 - 0{,}8) = 1000$$

The sale price in the distribution of "value" equally between the manufacturer and the consumer of the effect will be equal to:

$$PR\text{sale} = 0{,}5\ (1000 - 500) = 750$$

In this situation, the value of *PMR* at the sale price of 750 will be 0,733:

$$PR\text{sale} = 200 / (1 - 0{,}733) = 750$$

It is desirable that the sale price would be higher than the price at which the NPV – net present value is zero. Naturally, in actual practice, prices for products are formed as a result of negotiations between the producer and the consumer. The consumer, taking into consideration functional features of the new product, calculates for himself the upper limit of the price. He understands that if the price is close to the upper limit, this equipment will not be effective in operation. The manufacturer, having calculated the lower limit of the price and having an idea about the value of its upper limit, and, accordingly, about the "value" for the consumer, during the negotiations seeks for such a price that certain part of the value created for the consumer remains with him.

2. Target planning in conditions of multi-product manufacture

Let's proceed directly to the target planning. The first stage of target planning is aimed at to establish a *target price*. J. Daly believes that as a basis for its calculation one can accept prices for similar products in the market (Daly, 2004), but Dolan and Simon consider that: "It would be a serious mistake to set the price on a new product on the basis of available analogues" (Dolan & Simon, 2005). These authors, as well as Drury, believe that

in price formation it is necessary to conduct research, during which the value of the product can be determined from the point of view of the consumer (Drury, 2012). Ultimately, the knowledge of this value for market participants prompts the company a certain compromise between price and sales. Solving this problem requires some efforts to study market situation, but there are no specific methodological problems, in this case.

It is quite different when a matter with target profit and target prime cost comes forward. "Knowledge of the level of the target price", Daly notes, "helps the company to calculate the target profit and after that calculation of target costs becomes an easy task. Thus: Target costs = target price – target profit" (Daly, 2004).

However, such calculations can be made only in the conditions of one-product production. We propose a hypothesis: In conditions of multi-assortment production, it is not advisable to plan *target profit and target prime cost for products. In these conditions, planning of target price, target variable costs, target marginal profit and target profit margin ratio* are proposed.

In such like cases, it is also inappropriate to plan target prime cost of a unit of output, as it can not be calculated in isolation from the output of other products, their structure and changes in the scale of production.

To prove this hypothesis it is not enough to confine ourselves only to theoretical arguments. As P. Heyne remarked, "The process of study and research of any concept should be combined with demonstration of their practical capabilities" (Heyne, 1993). … "Simple examples can illustrate best of all the most important principles" (Heyne, 1993). The proof of this hypothesis will be considered on a conditional example, but in order to reach the final results of cost and profit, it is necessary to distribute the fixed costs between the types of products.

In 2001 we proposed the method for allocating fixed costs in proportion to margin profit for the first time (Orlov & Ryasnykh, 2001). Using conditional examples and real information of machine-building enterprises, we tested various methods for allocating fixed costs in proportion to "direct wages", "revenues", "materials costs" and "margin profits" for compliance with the basic requirement of the CVP system (costs/value/profit) and then when calculating the break-even in multi-product production, the structure of the assortment should remain unchanged. This requirement is met only by the allocation of fixed costs in proportion to the margin profit. The use of other methods will lead to results contrary to common sense, i.e. to achieve break-even it is necessary to increase the number of unprofitable products and reduce profitable ones. This method is based on two indicators: Break-even Ratio (BER) and Margin of Safety (MOS):

$$BER = FC / MP, \quad (4)$$

$$MOS = 1 - BER, \quad (5)$$

where *BER* – break-even ratio; *FC* – fixed costs; *MP* – marginal profit of enterprise; *MOS* – margin of safety.

With the help of *BER*, it is possible to calculate quickly the amount of fixed expenses, the break-even sales for the enterprise as a whole and by types of products and even the effect of the operating leverage, but the main task of this method is the calculation of profit (*Pi*) and cost-effectiveness (*CEi*) on types of products:

$$P_i = MOS \cdot MP_i, \quad (6)$$

$$CE_i = \frac{MOS \cdot MP_i}{PR_i - (MOS \cdot MP_i)} \cdot 100 \quad (7)$$

where *Pi* – profit on i-th product; *MOS* – margin of safety; *MPi* – margin profit on i-th product; *CEi* – cost-effectiveness on i-th product; *PRi* – price on i-th product.

But the main instrument of target planning is the proposed before formula (2) of target (initial) price. Table. 1 shows the initial data for the analysis of various variants of target planning and calculations of profit and cost-effectiveness by product type and stresses that the value of fixed costs (*FC*) is \$567. Since the value of margin profit is equal to \$630, with the values of *BER* = 567/630 = 0,9 and *MOS* = 1 – 0,9 = 0,1, we can calculate the indicators of profit and cost-effectiveness by type of product using formulas 6 and 7.

Table. 1. Baselines and calculation results (in dollars)

Products	Quantity	Price and value		Variable costs per unit	Margin profit		Profit		Cost-effectiveness %	Profit margin ratio
		Ц	В		per unit	per value	per unit	per value		
A	40	10	400	6	4	160	0,4	16	4,2	0,4
B	60	12	720	6	6	360	0,6	36	5,3	0,5
C	10	22	220	11	11	110	1,1	11	5,3	0,5
Total	110	-	1340	-	-	630	-	63	4,9	0,47

It should be noted that the products “B” and “C” have the same potential cost-effectiveness: *PMR* = 0,5 and therefore they have the same cost-effectiveness: *P* = 5,3%. Such dependence will be observed in other examples.

Let’s propose several options for targeted planning. We emphasize that it is important not only to set and achieve the goal, but it is necessary to analyze the consequences of the decision making.

Option 1. For product “C”, it was possible to reduce costs by \$2. We retain the previous price and sales volume. The goal is to increase product cost-effectiveness. The revenue remained the same: *R* = \$220. Margin profit on product “C” is equal to *MPC* = 22 – 9 = \$13; profit margin ratio *PMR* = 13/26 = 0,59. Margin profit on the volume of the product “C” is equal to: $MPC = 13 \times 10 = \$130$.

In the enterprise as a whole, the margin profit will be \$650, i.e. will increase by \$20 and the profit for the enterprise will increase by the same amount: *P* = *MP* – *FC* = 650 – 567 = \$83. New values of indicators are *BER* and *MOS*: *BER* = 567/650 = 0,872; *MOS* = 1 – 0,872 = 0,128. We calculate the profit and cost-effectiveness of products using formulas 6 and 7.

Table. 2. Profit and cost-effectiveness by types of products (option 1 for unit "C")

(in dollars)

Product	MOS	MPi	Pi	R	S	CE%	PMR
A	0,128	160	20,42	400	379,53	5,39	0,4
B	0,128	360	46,07	720	673,93	6,83	0,5
C	0,128	130	16,46	220	183,54	8,96	0,59
total	0,128	650	83,0	1340	1257	6,6	0,485

As a result, the profit and cost-effectiveness have increased significantly, not only on product "C", but also on other types of products. But at the same time, although the increase in margin profit on product "C" provided an increase in profits for the enterprise by $20, the profit on the product "C" has increased only by $5,46.

Option 2. Let's calculate a new price for product "C" with preservation of the same level of cost-effectiveness. Thus in the calculation of *PRC* we take the value of *PMR* = 0,5:

$$PRC = 9/(1 - 0{,}5) = \$18$$

Lower price will allow to increase sales twice (cost advantage), thus we have: *Revenue (R)* = 18×20 = $360; *MP*i = 18 – 9 = $9; *MPc* = 9×20 = $180. The margin profit on product "C" will increase by $70, and in the whole enterprise it will be $700. The new value of *PMR* = 567/700 = 0,81; *MOS* = 0,19. We can calculate the profit and cost-effectiveness based on the new value of "*MOS*".

Table. 3. Profit and cost-effectiveness by types of products (option 2 for unit "C")

(in dollars)

Product	MOS	MPi	Pi	R	S	CE%	PMR
A	0,19	160	30,4	400	369,6	8,22	0,4
B	0,19	360	68,4	720	651,6	10,5	0,5
C	0,19	180	34,2	360	325,8	10,5	0,5
Total	0,19	700	133	1480	1347	9,87	0,47

It can be seen from calculations that despite the fact that PMR per unit of product types and for the company as a whole remained at the level of the original option, the company's profit as a whole compared with the first option, has increased by 50% and the company's cost-effectiveness has increased by 49,5%.

Let's conduct analytical calculations on the product "A". Here, variable costs increased by $1, i.e. they are equal to $7.

Option 1. We have increased the price of the product "A" by the same value: *PRa* = 11; *MPa* = 11 – 7 = $4.

In this situation, the margin profit for this product and for the enterprise as a whole remains at the same level and the amount of profit hasn't changed. Consequently, *BER* and *MOS* remained the same as in the original version. But in such situation there can be observed some losses for the enterprise: the *PMR* and the cost-effectiveness of product "A" have decreased.

$$PMR = 4/11 = 0{,}363$$

$$CEa = 16/(440 - 16) \times 100 = 3{,}77$$

And for the enterprise as a whole: $CE = 63/(1380 - 63) = 4{,}78\%$

In addition, with the same profit margin, an increase in current assets of $40 will be required.

Table. 4. Profit and cost-effectiveness by types of products (option 1 for product "A") (in dollars)

Product	MOS	MPi	Pi	R	S	CE%	PMR
A	0,1	160	16	440	424	3,77	0,363
B	0,1	360	36	720	684	5,3	0,5
C	0,1	110	11	220	209	5,3	0,5
Total	-	630	63	1380	1317	4,78	0,456

Option 2. Let's Calculate the price for the product "A" at which the same value of $PMR = 0{,}4$ is maintained.

$$PRa = 7/(11 - 0{,}4) = \$11{,}67$$

$MPa = 11{,}67 - 7 = \$4{,}67$; $PMR = 4{,}67/11.67 = 0{,}4$; $MPa = 4{,}67 \times 40 = \$186{,}8$; enterprise' margin profit as a whole: $MP = 186{,}8 + 360 + 110 = \$656{,}8$.

Than we have new values of $BER = 567/656{,}8 = 0{,}8633$ and $MOS = 0{,}1367$, and company's profit as a whole $656{,}8 - 567 = \$89{,}8$.

Let's conduct the calculations of profit and cost-effectiveness according to the previous scheme.

Table. 5. Profit and cost-effectiveness by types of products (option 2 for product "A") (in dollars)

Product	MOS	MPi	Pi	R	S	CE%	PMR
A	0,1367	186,8	25,53	466,8	441,3	5,73	0,4
B	0,1367	360	49,21	720	670,8	7,33	0,5
C	0,1367	110	15,04	220	205,0	7,33	0,5
Total	0,19367	656,8	89,8	1406,8	1317	6,8	0,47

In order to keep the profit margin ratio for product "A" at 0,4, it was necessary to increase its price comparing with the first option only by $0,67, i.e. by 42,5%, and cost-effectiveness by 38%, while at the same time the price has increased only by 16,7%.

It is easy to follow that in all variants of margin profit increasing for products "C" and "A" it has led to an increase of cost-effectiveness for other products. We have already noted that in the first version of margin profit increasing for product "C", and consequently, the enterprise's profit was $20, and the profit of product "C" increased only by $5,46. The fact is that the margin profit increasing for product "C" "assumed" an additional part of fixed costs and due to this the cost-effectiveness of other products has increased.

We can show this process on the example of the first option with the product "C". For this purpose, we will calculate the amount of fixed costs in the original version ($BER = 0{,}9$) and compare with the results of the calculation in the first variant ($BER = 0{,}872$). For the calculation of fixed costs for types of products can be used such a formula as:

$$FCi = BER \times MPi \quad (8)$$

Table. 6. The results of fixed costs calculation (in dollars)

Value BER	Fixed costs by types of products			Total
	A	B	C	
0,9	144	324	99	567
0,872	139,4	314	113,6	567
Difference	-4,6	-10	14,0	0

Thus, the product "C" has taken on the additional coverage of fixed costs of $14, but at the same time it has become the most profitable product (8,56%) with a higher *PMR* = 0,59. The situation is similar to the second version of the product "C", where it has covered an additional fixed cost of $46,8. Thus we observe the increase of sales twofold, but its cost-effectiveness has almost doubled comparing with the initial version. Thus we have such a case, when prime cost has decreased exactly on the value of reduced fixed cost and at the same time the profit is increasing.

In our examples characteristics of product "B" remained the same, i.e. price, sales volume, variable costs were unchanged, but due to changes in other products the profit of product "B" has become equal to original as $36, $46, $68,4, $36 and $49,2 with respective cost-effectiveness of 5,3%, 6,83%, 10,5%, 5,3% and 7,33%.

This situation can be one more proof that neither prime cost of production nor profit by type of products can be direct objects of targets in a multi-product production environment. In calculations of price adjustments and formation of new profit indicators, we practically didn't use prime cost indicators by types of products and this reflects the anti-cost approach to pricing.

Conclusions.

1. For the implement of anti-cost approach to pricing of new products and taking into account the creation of value and its distribution between the manufacturer and the consumer, the initial price formula proposed in the article (its lower limit) should be used. In the calculation fixed costs are not involved and the division of value can be regulated by different values of the profit margin ratio.

2. In the context of multi-product production, it is inappropriate to plan target profit and target prime cost of production, as they can't be calculated in isolation from the output of other product, their structure and changes in the scale of production.

3. Under these conditions, it is advisable to plan a target price, target variable costs, target margin profit and a target profit margin ratio.

4. All these elements are closely interconnected that can be judged from the target price formula. The leading role in target planning belongs to the "profit margin ratio", the value of which isn't estimated enough in economic theory and not widely used in practice.

References.

Atkinson, A.A., Banker, R.D., Kaplan R.S., Young M.S. (2005). Management Accounting. M.: Williams. [in Russian].

Böhm-Bawerk, E. (2005). Fundamentals of the Theory of Economic Benefits Value: World economic thought: through the prism of centuries in 5 volumes in 6 books. / Vol. II. Rising Capitalism. Moscow: Thought [in Russian].

Daly, J. (2004). Pricing for Profitability: Activity-Based Pricing for Competitive Advantage. Moscow: Williams [in Russian].

Dolan, E.G., Lindsey, D.E. (1996). Market: Microeconomic Model. SPb.: Turan [in Russian].

Dolan, R., Simon, H. (2005). Power Pricing / Effective Pricing. Moscow: Exam [in Russian].

Drury, C. (2012). Management and Production Accounting. Moscow: Unity-dana [in Russian].

Heyne, P. (1993). The Economic Way of Thinking. Moscow: Delo [in Russian].

Horngren, C., Foster, G., Datar, S. (2005). Management Accounting. SPb.: Peter [in Russian].

Menger, C. (2005). The Fundamentals of Political Economy: World economic thought: through the prism of centuries in 5 volumes in 6 books. / Vol. II. Rising Capitalism. Moscow: Thought [in Russian].

Mill, J.S. (2004). The Fundamentals of Political Economy: World economic thought: through the prism of centuries in 5 volumes in 6 books. / Vol. I. From rise of civilization towards capitalism. Moscow: Thought [in Russian].

Nagle, Th., Holden, R. (2001). Strategy and Tactics of Pricing. SPb.: Peter [in Russian].

Orlov, O., Ryasnykh, E. (2001). Does the end always justify the means? How to distribute conditionally fixed costs. *Economist*, 5, 45–49.

Schumpeter, J. (2005). Capitalism, Socialism and Democracy: World economy thought: through the prism of centuries in 5 volumes in 6 books. / Vol. IV. The age of global transformations. M.: Thought [in Russian].

Upchurch, A. (2002) Management Accounting: Principles and Practice. Moscow: Finance and Statistics [in Russian].

Pavel Zakharchenko
Doctor of Sciences (Economic), Professor,
Head of Department of Economic and Finances,
Berdyansk State Pedagogical University
Anna Kostenko
PhD in Economics, Associate Professor,
Department of Economic and Finances,
Berdyansk State Pedagogical University
Tatyana Kungurtseva-Mashchenko
Postgraduate student of Department of Economic and Finances,
Berdyansk State Pedagogical University,
Berdyansk, Ukraine

RESORT-RECREATION SPHERE IN THE SYSTEM OF DEVELOPMENT OF HEALTH ECONOMICS OF UKRAINE

Abstract*. In the modern world the economy of health is one of the most important components of the world economy. An important role in the formation and development of such an economy is played by the resort-recreation sphere. In the modern world economy resort recreation is one of the most highly profitable and most dynamic spheres of activity of the developing economy. Many countries have in their person not only constantly growing a source of financial receipts, but also due to involvement of tourists actively develop infrastructure of territories, create additional jobs. In a research shows the development of this sphere in Ukraine and the ways of its use in the system of the European integration. To functioning in market conditions forces to estimate in a new way the capacity of the resort-recreation sphere and to carry out search of alternative options of innovative development. Respectively, in work it is constructed and investigated behavior model of a resort-recreation system in the conditions of innovative and market variability, which allows to estimate functioning of the resort-recreation sphere in the conditions of crossing of the determined chaos as the mechanism of market self-regulation and also to form strategy according to change internal and external the economic environment.*

JEL Classification I11, I15, O12

Introduction

Reforming of national economy is associated with deep structural transformations in all spheres of public life, transformation of an economic complex of Ukraine and other important directions of social and economic development. One of the most important tasks of this process is the search for rational methods and ways to intensify the development of those activities, for which all the necessary conditions exist and which, due to their social impact and economic efficiency, can compete well with the traditional branches of the economy. Among such peculiar "points of growth" the priority place occupies a resort-recreation sphere.

In the modern world economy resort recreation is one of the most highly profitable and most dynamic spheres of activity of the developing economy.

Many countries have in their person not only constantly growing a source of financial receipts, but also due to involvement of tourists actively develop infrastructure of territories, create additional jobs. Ukraine possesses a powerful resort-recreation potential, whose effective development can ensure not only full satisfaction of the population's needs in recreational services, but also bring real economic benefits. Therefore, the recreational sphere in the process of market transformation of the economy should occupy one of the leading places in the structure of the economic complex.

However, in spite of the rich resort-recreational resource base and a wide network of subjects of tourist activity, Ukraine still lacks a clear contemporary strategy for the development of resorts that meets global and European standards. As a result, of the development of the resort and tourism sector Ukraine is one of the last places in Europe, and the degree of compliance of its resort subsystem with environmental requirements to the state of the environment and cultural and historical heritage is quite low. Therefore one of the relevant directions of scientific research in this area is development of the corresponding system concepts of innovative and investment transformations for further development.

The problem of innovative development of economic systems has deep grounds in the economic problems. The problems of the formation, development, change of economic systems studied in the work of many scientists over a long period of time, in particular, in the writings of A. Williams (2017), P. Nelson (2012), R. Cartright (2012), D. Nort (2010), A. Melnyk (2009), J. Schumpeter (2010) and other scientists. The conducted researches are based on the fundamental works of scientists on the theory and practice of research of innovation activity - M. Kondratiev (2012), A. Kleinknest (2017), D. Freeman (1992); studies of economic processes in the resort-recreation sphere - M. Amirhanova (2013), P. Gudzya (2016), P. Zakharchenko (2010) and others.

While paying tribute to the scientific and practical significance of the works of these scholars, it should be emphasized that a certain range of tasks is not well developed. So, further research is needed on the methodology of systemic innovation development of the resort-recreation economy. It should include consideration of the nonlinear character of the course of economic processes, the change in the state, structure and adaptive properties of recreational activities in accordance with the development of world processes.

1. Resort-recreation sphere as a way of economic growth of the national economy

Despite the economic importance of the resort-recreation sphere the modern concept of its development in Ukraine has not yet become widespread. This circumstance is due to the long dominance of economic ideology, which is based on the unconditional dominant sphere of material production. Without calling into question the principled validity of this position, it must be emphasized that its implementation should be carried out using new models of socio-economic activity that prevent the emergence of structural deformations in a single socio-economic complex.

This paradigm of development will allow for the innovative transformation of the national economic system, adding to it the most important market properties - economic stability and market competitiveness.

Resort-recreation sphere being simultaneously a social and economic phenomenon can positively influence the structure of the economy. On the one hand, its development stimulates the growth of production in related sectors of the economy (trade, transport, agriculture, production of consumer goods, etc., on the other - significantly affects the employment of the population. Analyzing the change in the main economic indicators of the development of this sphere, we can conclude that the resorts in recent years developed at high rates. Even in the unfavorable conditions and periods of the economic crisis in the world resort industry the positive tendency to growth remained (Ryan, 2011).

According to the World Tourism Organization (UNWTO) (UNWTO, 2018), the share of resorts and related industries now accounts for 9.7% of the world's jobs, 11.1% of international investment, 14% of exports, and 9-15% of the world's gross domestic product. Tourists spend 12.8% of all the money spent by global consumers. In 2018, the countries of the world earned at the expense of reception of consumers of tourist-recreation services $ 1.6 trillion. The average tourist who visited Europe brought the local economy an income of $ 910, and for the countries of Eastern Europe and the European republics of the former USSR this indicator was $ 420. The number of international tourist and recreational travel has steadily increased, rising from 40 million in 1960 to around 900 million in 2018. According to the forecasts of the World Tourism Organization in 2020, the number of such trips will triple to reach 1.578 million people, which is 1.8 times the value of 2010. Revenues from resort and tourism activities will increase to about $ 2 trillion. In fig.1 shows the income of the world from resorts and tourism in relation to their GDP.

Analysis of the experience of the European Union countries shows that revenues from resort and tourist activities usually fluctuate within 11-15% of GDP, but in some states they reach more than 20%. Tourism and recreation are becoming more and more prominent in the economies of these countries. For example, the share of income from resort-tourism activity in Sweden already exceeds the share of GDP in the automotive industry. This situation is primarily due to indicators such as: the rate of turnover of capital, the volume of exports of services and the number of employed population. In the modern world economy the level of consumption of the resort and tourist product is one of the most important indicators of the quality of life. At that time, this indicator for Ukraine is rather low and is at the level 2.7%. It testifies about potential opportunities of increase in income from such activity several times (Tarasov, 2018).

According to the forecasts of the experts of the World Tourism Organization (UNWTO), the resort-tourism sphere will be in the first place in the world export in the nearest decade. Germany, Japan, USA, China, and Great Britain will become the largest supplier countries of resort-tourism streams.

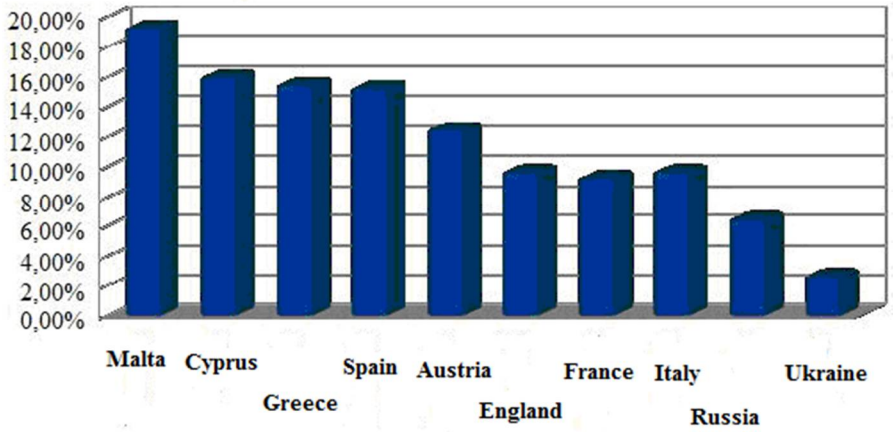


Fig.1. Income from tourism in the GDP of countries, %

Source: Built by the author alone

The volume of displacement between countries in Western and Eastern Europe will increase, mainly in the direction from East to West. Therefore, in the light of such processes, Ukraine has every opportunity to become one of the most promising and most visited countries in Europe.

Considering the state of the resort and recreation potential of Ukraine, first of all, it is necessary to note the presence of favorable climatic conditions and all kinds of recreational and balneological resources, which creates the preconditions for the formation of highly developed, competitive recreational complex. The total area of natural landscapes suitable for resort-tourist activities is approximately 9 million hectares. Also it should be noted that in the territory of our state there are more than 125 thousand monuments of archeology, architecture, urban development, and hundreds of museums. In addition, Ukraine is located at the crossroads between Europe and Asia: important railways and motorways, ports of the Black and Azov Seas, multilateral ties with many countries. It should also be noted that the development of the recreation-tourist complex of Ukraine is an important factor in raising the international prestige of the country, a source of socio-economic development of the regions, an important condition for the preservation of the historical and cultural heritage.

At the same time, the economic situation that has developed in the resort-recreation sphere is rather complicated. The absence of the purposeful state strategy for the development of this direction of management, weak investment attractiveness, low competitiveness of most Ukrainian resort-recreation complexes, which increasingly manifests itself against the background of processes of globalization, leads to loss-making activity and a number of negative phenomena. According to the data of 2018 of 1254 hotel complexes in the country only a small part corresponds to modern standards, 80% of hotel enterprises need repair, rooms - reconstruction and re-equipment, technology of service - automation and computerization. There is a need to develop a network of comfortable hotels and camps, first of all along the international transport corridors that pass through the territory of Ukraine.

The Ukrainian tourist industry needs a rational combination of national and regional interests, the comprehensive use of regional resources and on the basis of them already to form the rational territorial structure and spatial organization of the recreation-tourist complex of Ukraine. The World Economic Forum (WEF) develops an index of competitiveness of travel and tourism. It is appointed for measurement of factors and those economic actions, which do tourism and resorts attractive in a certain country (WEF, 2018). The first two places in ranking for the second consecutive year are occupied by Switzerland and Germany. Ukraine occupies only 85th place among 140 countries of the world at the level of Macedonia, Albania and Azerbaijan by the size of this index (Fig. 2).

Today for accommodation of vacationers the services offer more than 1400 hotels, motels, campings, the tourist centers and about 3000 recreational facilities. The strategy of development of the resort-recreation sphere provides that these recreation centers are primarily positioned as tourist objects, and then as medical and preventive centers, while world practice suggests the opposite (Inskeep, 2014).

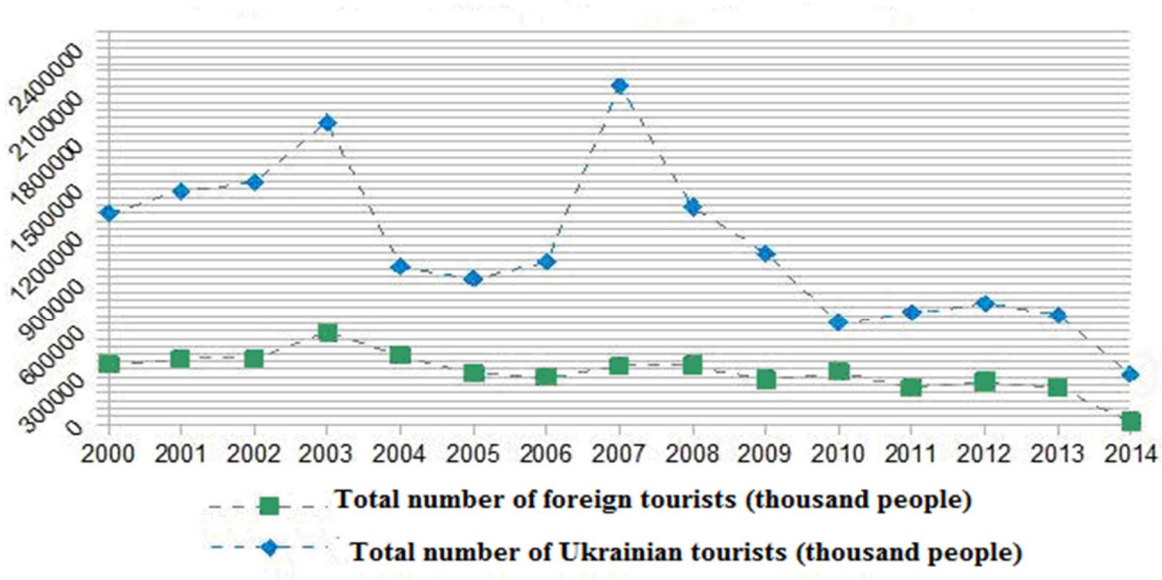


Fig. 2. Dynamics of indicators of tourist flows in Ukraine

Source: Built by the author alone

Although the volume of the Ukrainian market is more than 50% higher than in Hungary, the Czech Republic and Slovakia combined, the indicator of tourist attendance remains steady. The average profitability rate in 2018 was 6.8 percent, down 1.5 percent compared to 2010. Income from the services provided by resort-tourist organizations in Ukraine in 2018 amounted to 6057142,3 UAH, including hotels and other accommodation facilities - 2972268,4 UAH, in specialized accommodation centers - 3084873,9 UAH. The current economic situation in Ukraine requires a sharp increase in the economic role of resorts. In the world such role is played by seaside climatic resorts, mainly due to recreational, preventive and related activities. This is due to the situation that a much larger number of people need recreation in comparison with those who need resort rehabilitation and rest.

World practice demonstrates several models of resort-recreation activities. The first model is typical of Germany. Here the resorts are used mainly for the needs of national health care and, accordingly, a significant place in the resorts practice is medical and rehabilitation activities. Another model is used by countries with coastal resorts with a fairly favorable climate (Turkey, Cyprus, etc.). Here in the resort network dominated seaside resorts, focused on recreational and preventive maintenance services mainly foreigners (domestic exports). For many countries (USA, France, Japan, etc.) is characterized by an intermediate model with mainly recreational and preventive use of coastal climatic resorts.

The analysis of the current state of the resort-tourism sphere in Ukraine allows not only to estimate in real time its competitiveness at the international level, but also to identify key problems that hinder the full realization of the existing potential. In this context, it is worthwhile to focus on the experience of European countries, where the resort-tourist sphere is a significant source of government revenues. It should be noted that regulation of tourism and recreation activities in most countries takes place with the participation of the public and private sectors. According to the World Tourism Organization (UNWTO), funds of 13 tourist-recreation departments, including countries of the developed resort and tourism, such as Spain, France and Austria, are 100% replenished from the state budget. The national tourist administrations of the Netherlands and the United Kingdom cover their public expenditures by 64% and 68% respectively. Among the main, it is expedient to allocate such types of the help of the state resort-tourist sector: subsidies to help solve cash problems; soft loans to offset the gap between fixed and commercial rates; guarantee in relation to loans and subsidies; tax exemptions granted after the project started to generate income. At the same time, the government guarantees the granting of a loan or repatriation of capital and profits, ensures that the above types of incentives are used by appointment, and projects are consistent with the purposes for which the money was allocated.

Innovative activity is an important factor in the further development of the national resort-recreation sphere. In world practice such activity generates revenue from the sale of resort-recreation products while minimizing costs. The goal of achieving a certain amount of sales is transformed into a production program and sales program. Consequently, it is a decisive element that directly affects the profitability of resort-recreation complexes. At the same time, according to the State Statistics Committee of Ukraine, the share of innovative goods, works and services in the total volume of sales was in Ukraine in recent years about 2%, and the fate of newly introduced or those that were subjected to significant changes in innovative products new to the market , - less than 0,5%. At the same time, the cost of research in the leading world economies is 2-3% of GDP, in particular, the USA - 2.7%, Japan, Sweden, Israel spend 3.5-4.5% of GDP. In Ukraine, this indicator is about 1% of GDP (Santo, 2014).

Ukraine has created conditions for the development of innovation activity, formed the basis of the regulatory framework and mechanisms for implementing innovation policy, as well as creating conditions for the development of appropriate infrastructure. However,

despite the high innovation potential, the innovative component of economic development is poorly utilized. The state of innovation activity in Ukraine is defined by the majority of scientific experts as crisis. Thus, the latest statistics show a gradual decrease in the innovative activity of organizations in the resort-recreation sphere (Ermolaeva, 2017). The analysis of indicators for the Global Innovation Rating, developed by Bloomberg, showed that Ukraine is among the 75 countries in terms of innovation development (71 place in 2018). After analyzing the data of another international rating, namely the World Economic Forum in Davos, Ukraine belongs to the countries with an average level of innovation (81 place on the factor of innovativeness and business experience, by the results of 2018). Despite such high indicator as the availability of skilled personnel, patent activity, scientific infrastructure, the involvement of companies in innovation processes, competitiveness in the domestic market, this contributes to the transformation of innovations on the large-scale. Although society has a significant innovation, creativity, intellectual potential, it does not have a significant impact on the economy and the development of resort-recreation sphere. And economic development continues under the inertial scenario according to the extensive model.

The development of complex socio-economic systems as an orderly space requires the necessary level of management, decision making system based on relevant methodologies. Since the result of the formation of regional economic spaces is their system structure, it can be investigated on the basis of economic-mathematical modeling. Such an approach allows to substantiate the mechanisms of behavior and transformation of resort-recreation systems, to determine the parameters of their sustainable functioning, as well as to define and monitor quantitative and qualitative assessments of the impact of recreation. At the same time, from the standpoint of system methodology, this allows us to investigate the relationships between the current state of the object and the conditions that predetermined this state, as well as to determine the degree of development achievements of the object's in the system of the delivered final and intermediate goal.

Thus, in order to recreate the economic space have the character of direct and positive connections and intersections. From one side, the recreation economics is in favor of the development of economic space in part of the resort-recreation territory with a switch on the structural elements of the open space: natural resources, manufacturing, social and economic activities. As a result, the economic space evolves and qualitatively transforms under the influence of more advanced technologies of the use of natural resources, eco-system methods and approaches not only in the health resort, but also in the regional economy of the resorts of national and local scales, the growth of the income level of the population of recreational territories and the increase of the level of service. On the other hand, resort-recreation areas directly contribute to the development of the economy of the region and the country as a whole. Due to the strategically grounded practice of business design, there is a transition to a new quality of the development of territories.

2. Model of the behavior of the resort-recreation system in conditions of innovation and market variability

At the present stage of the development of the resort-recreation economy on change the existing economic system, a new innovative system that is immune to modern technologies comes. Of particular interest in the context of innovation development is the chaotic dynamics that arises in the process of diffusion of innovations. In terms of the theory of evolution, chaos is a natural stage that allows the system to correct its own disadvantages in the process of desynchronizing its elements. When the link between the elements of the system weakens, their functions and positions in the system hierarchy change, it has the opportunity to organize itself on the basis of known information about the existing internal and external problems. If chaos as a period of transformation were not present in the system, then any constructive changes in it would meet the high resistance of its elements, for which the present state of the system is advantageous. In this context, chaos periods in the economy can be considered as effective points of bifurcation, in which in times of crisis, the transition of the economy to the innovative path of development (Prigohgine, 2008).

Let's consider the main scientific and practical approaches to development of models of innovative activity that gained distribution now.

The first attempt to describe the innovation process was the emergence of a linear model, representing the process as a sequential passage of fundamental research, applied research, design work, production and further diffusion of innovation. As a result of further research on innovation, a model was proposed that reflects the close relationship between innovation (final product), innovation process and company strategy (Utterback, 2015). A dynamic innovation model combines product lifecycle model, process life cycle model and various competitive strategies.

In 1985 the new method of the analysis of innovations, which received the name to “transilience maps” was developed. Graphically “transilience maps” are presented in the form of a matrix. “Transilience maps” show the potential of innovation to affect the company's existing resources, skills and knowledge regarding two different directions. The first direction focuses on how the new technologies and production activities are organized, and the second direction is related to the consideration of the activities required by the company to serve new markets and customers. Two independent innovation parameters, namely technology and the market, have been identified in the model, and the ability of innovations to influence existing competencies of the company (to destroy them or to strengthen them) is reflected.

At the same time, S. Klyno proposed a more complex model of innovation process - a chain model. The peculiarity of this model is the allocation of five interconnected chains of the innovation process, which describe the various sources of innovation and related inputs of knowledge throughout the process. In his work, he draws attention to the fact that the

creation of innovation by its nature is a complex, chaotic process, and therefore smooth, clearly structured linear models distort the essence of the innovation process. The driving forces of innovation, the author believes the "forces of the market" and the strength of scientific and technological progress.

In 1994, the scientific work of the English economist R. Roswell, who became widespread, was published (Roswell, 2014). He proposed the classification of models of innovation process. In his work he identified five generations of innovative process models: the model “technological push” (G1), the model “market gravity” (G2), the combined model (G3), the model of integrated business processes (G4), the model of integrated systems and networks (G5). Each model corresponded to different stages of development of the economy of developed countries. He found that every new generation of models emerged in response to significant market changes, such as economic growth, intense competition, inflation, stagflation, economic upsurge, unemployment and lack of resources. Changing the model of the innovation process requires updating the strategy, changing the current innovation process and developing new market niches. To confirm the revealed process of evolution of models of innovation process Roswell used the U-shaped curve, which reflects the inverse relationship between time and cost in the innovation process.

Recently, an open model of innovation has become increasingly widespread. The theory of open innovation determines the process of research and development as an open system. To create innovation the company can use all the variety of sources of ideas, in the development of innovations used as own research, and research conducted by other organizations. If the innovation found does not match the company's business model, then you do not have to hide it, but to benefit from its use by other organizations through sales, distribution of licenses, the creation of affiliated companies and etc.

One of the main models of innovation is the diffusion model of their distribution. According to its distribution of innovations depends on both the number of firms that have already introduced innovations and the number of firms that have not yet mastered them. The insufficiency of the diffusion model for the description of markets is due to the fact that different technologies coexist in different spheres of the economy. Moreover, the curves of the distribution of capacities of any sphere in terms of efficiency levels for different moments of time are similar to each other. Thus, we can speak of the universality of the "spatial" curve of technology distribution, of its stability (invariance) over time.

Meanwhile this fact contradicts traditional economic theories, according to which capital investments should be made only in the most efficient (profitable) technology. Therefore the fate of low-cost industries should be rather small, or at least it should decrease over time, as the traditional diffusion model suggests. To eliminate this contradiction V. Polterovich and G. Henkin was proposed an evolutionary model of the interaction of processes of creation and borrowing of technologies. It allowed linking two marked facts - the logistic character of the diffusion "time" curves of technology spread and the steady

form of "spatial" production distribution curves by efficiency levels. They showed that this situation is the two sides of the only mechanism of "dynamic equilibrium" between innovative and imitative processes. Results of modeling showed that under certain conditions diffusions of innovations the scenario of turbulence similar to J. Byurgers's equation is shown, and, as a result, there is a self-organization phenomenon.

It should be noted that the ability to self-organization is also an important characteristic of complex resort-recreation systems. This property means the possibility of arbitrary ordering of the internal structure of the system, which is manifested in the establishment between its elements of distant correlations that is, increasing the stiffness and range of connections. The resort system based on the principle of economy of internal resources seeks to achieve an equilibrium state with the maximum level of disorganization dependent on external actions, which the system is forced to resist. Accordingly, the stronger the external actions, the stronger the interconnected elements of the resort-recreational system and the higher its level of self-organization. Under the influence of external anti-entropy actions in the process of self-organization, structural connections within the system increase their range and stiffness, thereby generating the flows of negative entropy for their elements. Elements, in turn, or increase a measure of own organization, or collapse, making growth of entropy. Having reached the maximum stiffness of the links the resort-recreation system acquires the properties of self-organized criticalness. In this state the system is as sensitive as possible to all external and internal influences. Even the smallest fluctuations can cause such a system to process the bifurcation and lead to the destruction of the formed structure, after which a new cycle of self-organization begins.

The reason for the fluctuations that give rise to self-organization is the intersection of several chaoses. External fluctuations arise due to negative entropy bonds on the part of macrosystems. Internal fluctuations are caused by deterministic chaos, which, resonating through the tight bundles of elements of the resort-recreation system goes to higher levels. Further on the rigid structural links, these fluctuations are intensifying and moving to higher levels of economic development.

The basis of self-organization is the desire of the resort-recreation complexes to provide a variety of reactions, adequate to the diversity of external influences, in which the system will be able to carry out an accepted strategy for achieving the goals. And the growth of internal entropy is ensured by the use of a positive effect of scale and the internal interconnection of types of resort-recreation activities, which reduces the cost of resources to ensure the effectiveness of the external strategy. Thus, the main components of the functioning of resort-recreation systems are optimized. It can be argued that the adaptive behavior of the resort-recreation system, its structure and management are formed at the intersection of two types of fluctuations: internal innovation and external market variability. This is a manifestation of intersection of several chaos, on the brink of which there is self-organization.

Innovation as a peculiar form of chaos can be an impetus and a mechanism for the emergence of one of the possible development trajectories, corresponding to the internal tendencies of the resort-recreation system, which provides its new qualitative state. In this the essential role and constructive role of innovation factors for the launch of the processes of self-organization in the system and its preparation for different scenarios of development is essential. Innovation, as a kind of chaos, is a factor that emits nonlinear systems on its own attractors.

Since innovation is an element of chaos in relation to the existing resort-recreation system, their implementation causes the process of self-organization in the system, aimed at adapting a new element to the structure. In order to accelerate adaptation the system produces relevant internal innovations, complicates interconnection between elements, and changes the structure of the system. At the first stage of self-organization to ensure the stability of the system the number of its reactions (internal innovations) should correspond to the number of external signals, due to the presence of market fluctuations. The system builds a structure in which each external action, the element corresponds, is able to generate internal innovations and affect the change in the structure of the system.

At the next stage the resort-recreation system evolves towards an increasingly orderly state. This is achieved through a hierarchy of elements: the order parameters are set, the principle of subordination is included, an effective grouping of homogeneous internal innovations is provided, which allow to adapt with the slightest changes in the structure of the system, and therefore, with the least cost. In other words, at this stage there is an adaptation of the resort-recreation system. The system is in a state of stable equilibrium and endogenous innovations are crucial for prompt adaptation and self-organization.

Resort-recreation system selectively approaches the response to exogenous innovations, setting a rigid regime for their penetration. She perceives only the influences that are in line with its nature; any other can act negatively even to the implementation of chaos scenarios. Having achieved a certain degree of internal force, nonlinear systems are activated, structuring outer space, in accordance with its nature and the existing market environment. At this stage it is necessary to develop an appropriate management paradigm that would produce appropriate goals and "include" adequate internal mechanisms for the development of the resort-recreation system. Thus, the property of innovation can be considered as a violation of the usual order of functioning of the system. The order may be aggressive, it seeks to suppress any manifestations of the new system, including innovations as forms of chaos. This may be due to contradictions, conflicts and economic failures that accompany the development of a complex resort-recreation system.

Another nature has processes that occur in a market environment. For the transition economy, which is in the process of system transformation, characterized by: qualitative and quantitative component change (deformation of one, the extinction of others and the emergence of the third); plurality of states, qualitatively different with each other; nonlinear

development trajectories due to rapid change of states. In the process of transformation there is a different inertia of components and the market environment as a whole, which indicates that the time during which tendencies persist has different durations. Are prone to changes and components of the market environment subjective nature: there are shifts in the needs of subjects, changing their interests, motives, stimulus-reactions and behavior. This has led to an increase in chaos, discrepancy, spontaneity of interconnections and increased market fluctuations in the market transition economy. Thus, the market environment can be considered as a synthesis of spontaneous market evolution and market changes of cyclic and chaotic nature.

Researches suggest that the functioning of the resort-recreation system in the conditions of the intersection of deterministic chaos is determined by the essential features. Influence of innovative and external market chaos on the economy of the resort-recreation system leads to the deformation of its nature. Significantly increases its chaotic component, substantially modified cycles, in particular, deformed phase of the cycle. Loss of stability of the resort-recreation economy in conditions of uncertainty, permanent crisis lead the system into a mode of bifurcation development, which is characterized by frequent change in the direction of motion. In this regard anomalies are observed in their behavior, in particular, the effect of mixing and the occurrence of hyperhase.

Let's consider one of the scenarios that arises in the innovative activity of the resort-recreation system in the conditions of the intersection of deterministic chaos based on the following model

$$\frac{dx}{dt} = kx + y - xS,\ \frac{dy}{dt} = -x,\ \frac{dS}{dt} = -\varepsilon S + \varepsilon R(x,y)(x+y)^n,$$

$$R(x) = \begin{cases} 1, (x,y) > 0, \\ 0, (x,y) \le 0 \end{cases},$$

x - production of traditional resort-recreation product; k - parameter that takes into account the growth of product production x; y - production of innovative resort-recreation product; S - market fluctuations in demand for resort-recreation products; ε - parameter of inertia of demand; $R(x)$ - indicator of market fluctuations; $n > (3/2)te^{-ut}$ - area of transition to the edge of chaos.

The results of computer simulation are presented in fig. 3. Instability of the regime leads to increased perturbation. At the same time, if the system is dissipative, there is a decrease in the phase-time element in time, which is associated with economic losses. This means that the element of the phase space is stretched in one direction (which corresponds to Lyapunov's positive parameters), and on the other, it is compressed. And the degree of compression prevails over the degree of expansion.

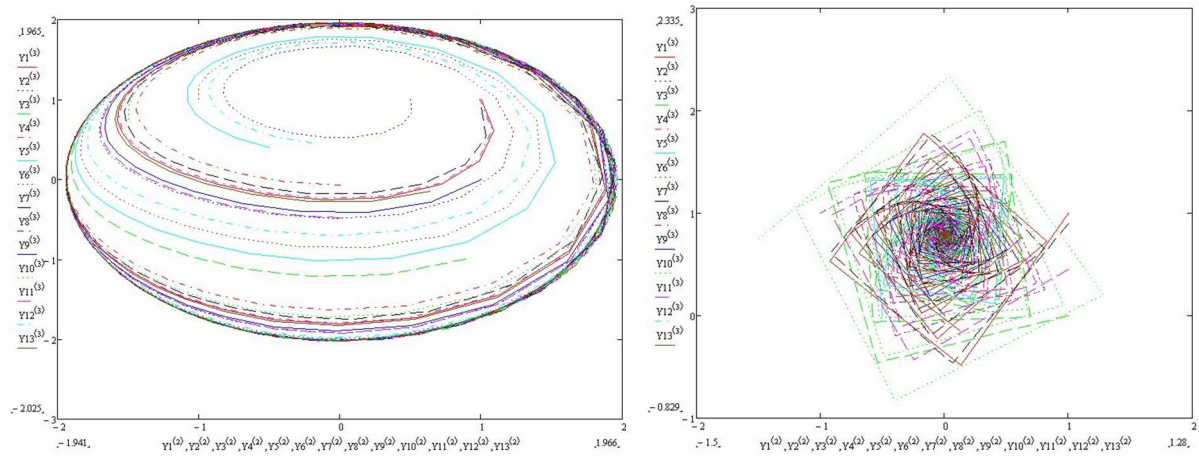


Fig. 3. Mixing of phase trajectories in conditions of intersection of deterministic chaos

Source: Built by the author alone

That is, any small deviations of an initial state can be found out in any part of phase space that it as a result brings to hashing in all area of trajectories.

Conclusions.

The conducted scientific research made it possible to formulate the following conclusions.

The complex analysis of the role and place of resort-recreations in the development of the national economy and trends in changing their state in the process of European integration of the Ukrainian economy has been carried out. It has been shown that, as in many developed countries, this activity can be one of the most profitable and most dynamically developed spheres of the national economy. It also to be among the primary budget forming branches in case of transformation of management of economic processes on the basis of modern European paradigms and modern tools of their analysis.

An analysis of the current state and trends in the development of the world and domestic resort-recreation sphere has made it possible to conclude that the management of the economic development of the resort-recreation sphere in the present conditions should be based on the consideration of the nonlinear, stochastic nature of the flow of economic processes, both external and internal environment, inherent in the European. It is advisable to research these processes on the basis of innovation activity. It allows researching the development of complex socio-economic systems in the conditions of high degree of uncertainty of the external environment; systems of universal, general theoretical, specific principles and a set of basic concepts.

To functioning in market conditions forces to estimate in a new way the capacity of the resort-recreation sphere and to carry out search of alternative options of innovative and investment development. Respectively, in a research it is constructed and investigated behavior model of the resort-recreation sphere in the conditions of innovative and market variability. The model allows to evaluate the functioning of the resort-recreation system in the conditions of intersection of deterministic chaos as a mechanism of market self-regulation, as well as to formulate strategies in accordance with changes in the internal and external economic environment.

References.

Amirkhanov, M. (2013). *Economic problems of the development of recreational regions* . Moscow: Economy.

Cartright, R. (2012). *Strategies for hypergrowth*. London: Capstone Publishing.

Ermolaeva, V. (2017). *Features and problems of innovation development in Ukraine*. Retrieved from http://www.nbuv.gov.ua/portal/Soc_Gum/

Freeman, C. (1992). *Unemployment and Technique Innovation*. London.

Gudz, P., & Zakharchenko, P. (2016). Estimation of the multiplicative effect of the recreational economy on the living space of the resort territories. *Economics and Law*, *1 (23),* 122–127.

Inskeep, E. (2014). *National and Regional Tourism Planning: Methodologies and Case Studies*. – New York : Routledge.

Kleinknest, A. (2017). *Innovation patterns in crisis and prosperity: Shumpeter's long cycle reconsi-dred*. – Hong Kong : Methuen.

Kondratiev, N. (2012). *Large conjuncture cycles and prediction theory*. Moscow.

Melnik, A. (2009). Prospects for the development of domestic tourism in the conditions of Euro-Atlantic integration. *Bulletin of the Khmelnytsky National University, 1,* 76-80.

Nelson, R. (2012). *The Evolutionary Theory of Economic Change*. Moscow.

Nort, D. (2010). *Understanding the process of economic change*. Moscow: Business.

Prigohgine, I. (2008). *Order from Chaos: A New Dialogue between Man and Nature*. Moscow: Progress.

Roswell, R. (2014). Towards the fifth-generation innovation process. *International Marketing Review, 11,* 7-31.

Ryan, C. (2011). *Recreational Tourism: A Social Science Perspectives*. London.

Santo, B. (2014). *Innovation as a means of economic development*. Moscow.

Schumpeter, J. (2010). *Theory of Economic Development*. Moscow: Economy.

Tarasov, O. (2018). *Resort treatment, organized rest and tourism in Ukraine: statistical bulletin*. Kyiv: State Statistics Committee of Ukraine.

UNWTO. (2018). *Recreational and tourist statistics*. Retrieved from http://www.unwto.org/index.php/

Utterback, J. (2015). *A dynamic model of process and product innovation*. OMEGA, The Int. of Mgmt Sci.

William, A. (2017). *Recreation and the Local Economy an Input-Output Model of a Recreation-Oriented Economy*. Graduate School of Business University of Wisconsin-Madison.

World Economic Forum. (2018). *Materials of the World Economic Forum*. Retrieved from http://www.weforum.org/en/index.htm/

Zakharchenko, P. (2010). *Economy models of resort-recreation systems*. Berdyansk.

Nadiia Tomilova
Ph. D. in Economics,
Associate Professor of accounting and taxation
Bila Tserkva National Agrarian University, Ukraine
orcid.org/0000-0001-6409-7487
Nataliia Khomiak
Ph. D. in Economics,
Associate Professor of accounting and taxation
Bila Tserkva National Agrarian University, Ukraine
orcid.org/0000-0003-3002-9659
Vyacheslav Zabolotnyi
Ph. D. in Economics,
Associate Professor of accounting and taxation
Bila Tserkva National Agrarian University, Ukraine
orcid.org/0000-0003-1172-5966

TOPICAL ISSUES OF IFRS FINANCIAL REPORTING: CHALLENGES AND CHALLENGES OF THE PRESENT

Abstract*. The transition of Ukrainian enterprises to international standards of financial reporting is a requirement of time, a market system of management and is conditioned by the necessity to fulfill the contractual obligations of Ukraine regarding further integration into the European Union. The application of the norms prescribed by International Accounting Standards (IAS) and International Financial Reporting Standards (IFRS) allows for reporting, which will include relevant, understandable and truthful information. The article analyzes problems that accompany the process of introducing IFRS in Ukraine. The complex of measures on possible ways of solving these problems in terms of institutional economic theory has been systematized. The differences between IFRS and Ukrainian accounting standards have been analyzed in terms of general reporting requirements, information structure and disclosure requirements. The ways of eliminating disproportions have been proposed in order to bring the national registration system to the international requirements. The preconditions and necessity of introduction of international standards of financial reporting in the accounting system of Ukraine have been considered. The adaptation of the accounting system to international approaches to the registration of the financial state by economic entities has been investigated, which is an important component of the further integration of the national economic system into the world community.*

JEL Classification: M 41

Introduction

The application of International Financial Reporting Standards (hereinafter - IFRS) in Ukraine has always been a controversial issue. But despite the discussion, the legislative and regulatory control of the domestic accounting system was gradually moving towards the implementation of International Standards. For today, the main purpose of the article is to study the stages of implementation of IFRS in Ukraine, to identify the problems and prospects for this process.

These issues remain relevant, as the insufficient degree of studying the problem of financial reporting in relation to the current changes related to the transition of reporting to international financial reporting standards, as well as their practical significance, testify to the need for further investigation of this issue. In order to establish common approaches to the formation of financial statements in the world economic space and to ensure the possibility of domestic business entities entering the world capital markets in Ukraine in 2007, the International Financial Reporting Standards (IFRS) Strategy was adopted for implementation.

The development of integration economic relations requires the harmonization and standardization of accounting in the international space. The main objective of such global processes is the maximum convergence of financial reporting principles and methods used in different countries. This will enable users to understand better the financial performance of business entities operating in different countries.

The main instrument of international communications in the accounting aspect is the IFRS. As Ukraine has started to introduce them into their national accounting practices, the study of the perspectives and problems that arise in this context is becoming increasingly relevant. Analyzing the state of this issue, it can be noted that the problem of the development and dissemination of international standards of financial reporting has been in the sight of scientists for a long time. The problems of the regional and national implementation of IFRS and their dissemination in the world are devoted the works of such scholars as: F. F. Butynets, S. F. Holova, H. H. Kireitseva, N. M. Maliuha, V. F. Palii, O. M. Petruk, V. M. Parkhomenko and others. Such scientists as D. Witney, E. Jenkins, Ye. Richard, D. Barry, B. Lev, S. A. Dipiaza and R. D. Ekklz paid attention to the study of these processes abroad. In addition, this issue is consistently featured in reports by both US Securities and Exchange Commission officials and representatives of the IFRS and IASB Funds.

The purpose of the study is to provide a theoretical substantiation of the essence of IFRS and to analyze the main differences in the basic concepts of national and international standards. Ukraine was one of the first countries in the post-Soviet space to declare a course on the implementation of international approaches to the construction of the national accounting system, which were mainly represented by international accounting standards (subsequently financial reporting). And only in 2011, the declared goal has been embodied in the "Principal Accounting Law".

The question of applying international standards and placing them in the basis of a reformed national accounting system has always been controversial, both in academia and among practitioners. Positions regarding international standards have been highlighted most thoroughly in the works of H.H. Kireitsev, F.F. Butynets, V.M. Zhuk, S.F. Holov, V.M Parkhomenko, S.Ia. Zubilevych and I.A. Belousova. Despite the presence of quite a large number of discussion issues, the legal framework for accounting regulation has steadily progressed to the legislative consolidation of the application of IFRS in Ukraine. With the adoption of the relevant Law, it became necessary to determine the directions of further reform of the national accounting system.

1. Prerequisites for IFRS implementation

There are four ways to implement IFRS in a particular country: complete acceptance, formal application, adaptation, and approval method. Until this time Ukraine adhered to an adaptation policy instead of full acceptance. It was developed domestic Accounting Regulations (Standards) which do not contradict international standards. The implementation of IFRS takes place by stages.

The first step is to create legislative and organizational prerequisites for implementing IFRS. According to the latest amendments to the Law of Ukraine "On Accounting and Financial Reporting in Ukraine", financial statements prepared according to national standards need to be translated into IFRS financial statements. This process means the transition from one system of standards, principles and accounting methods into a completely different system, the implementation of which requires a change in accounting policies in accordance with IFRS 1, "The First Application of International Financial Reporting Standards".

The second stage of IFRS implementation is the adaptation of the national legal and regulatory framework for accounting, which may have problems related to the poor quality of accounting information and inconsistency in the methods of accounting for financial instruments. The use of IFRS for small enterprises is more economical because of the less amount of information required due to the fact that the management independently evaluates which methods of representing business operations will provide more complete information about the company, using explanations that supplement and disclose such information.

The third stage is a state regulation, which is carried out under the conditions of the existing legal system. The regulation of domestic accounting clauses (standards) differs from the regulation of IFRS.

The fourth stage in solving the problems of implementing IFRS should be the expansion of international cooperation and the application of world experience. Thus, Ukraine's level of approaching national standards to international financial reporting standards is far behind the advanced countries of the world. Tools for solving problems should be: development of standards, methods and recommendations for the application of IFRS; provision of cooperation between domestic specialists; qualification improvement of accountants. Under such conditions, the introduction of IFRS may become an instrument for improving the transparency and efficiency of the management system of an enterprise, which, in turn, will enable Ukraine to attract foreign investment and loans, as well as access to foreign markets. IFRSs are documents adopted by the International Accounting Standards Board and determine the procedure for compiling and submitting financial statements.

A key element in the development of international economic relations is the creation of a unified accounting methodology that will facilitate the formation of qualitatively new forms of communication between countries. In order to achieve the unification of accounting processes, IFRS were developed and implemented. The role of these normative

documents in the integration processes generates a lot of discussions, the subject of which is their purpose and influence on the development of accounting. There is no consensus on the interpretation of the substance and characteristics of the value of the IFRS in the international accounting system (Table 1).

Table 1. Interpretation of the essence of international financial reporting standards

Source	Definition of IFRS
International Financial Reporting Standards (translation version in Ukrainian, 2012)	These are the standards and interpretations adopted by the International Accounting Standards Board.
Law of Ukraine "On Accounting and Financial Reporting in Ukraine" (On Accounting and Financial Reporting in Ukraine № 996-XIV, 1999, Jule 16)	Adopted by the International Accounting Standards Board documents that determine the procedure for drawing up financial statements.
Butynets, 2012	Rules that establish requirements for the recognition, measurement and disclosure of financial and business operations for the preparation of financial statements of companies around the world.
Schneidman, 2013	Rather complex systems of requirements, principles, partially rules and procedures for preparing useful information for a wide range of interested parties
Petruk, 2015	Principles of compiling financial statements, not rules, therefore, IFRS as a system of accounting does not exist.

Summarizing the opinion of scientists and the interpretation given in normative acts, we consider it appropriate to give such a definition that determines most fully the essence of the category under study and the main purpose of its existence: international standards of financial reporting - these are documents developed by the International Accounting Standards Board, reflecting the unified methods and principles for the formation of a qualitative and accessible to the range of users of information about the financial position of an entity on the basis of the convergence of the accounting and reporting methodology of the different countries. International standards are classified according to the date they have been put into operation:

IAS – International Accounting Standards;

IFRS – International Financial Reporting Standards.

In addition, the system of international standards includes interpretations developed by the IFRS Interpretation Committee (IFRIC International Financial Reporting Interpretations Committee) or by the former Standing Interpretation Committee (SIC – Standing Interpretations Committee). The conceptual framework for financial statements based on which financial statements are prepared and presented to external users is not included in IFRS. The provisions contained therein can not replace the requirements of each individual standard. However, existing standards are being developed and improved on their basis.

In Ukraine, the procedure for the application of IFRS was regulated by Art. 121 of Law No. 996-XIV of 16.07.99 (hereinafter - Law No. 996) and NP (C) BO 1 "General Requirements for Financial Statements".

In accordance with these normative documents, domestic entities apply IFRS financial statements, which are officially published on the website of the Ministry of Finance of Ukraine (www.msfz.minfin.gov.ua) provided that they do not contradict the Law No. 996.

According to the Art. 121 of the Law No. 996, entities are divided into those who apply necessarily IFRS and those who determine independently the appropriateness of the application of these standards. The list of entities that are required to apply IFRS in the preparation of financial statements is determined by the Law No. 996 (Article 121) and Order No. 419 since 28.02.00 (taking into account the changes made by the Resolution No. 820 dated November 7, 2013.) (hereinafter - Order No. 419). This list includes: public joint stock companies, banks, insurers - starting since 01.01.12; credit unions – since 01.01.15; enterprises that carry out: economic activity on providing financial services, except insurance and pension provision (Section 64 NACE 009: 2010), except for activities for management of assets (group 64.3 NACE 009: 2010) - since 01.01.13; economic activity on non-state pension provision (group 65.3 NACE 009: 2010) - since 01.01.13; auxiliary activities in the field of financial services and insurance (section 66 NACE 009: 2010) - since 01.01.14; asset management activity (group 64.3 NACE 009: 2010) - since 01.01.15.

In the case of a voluntary transition to the application of IFRS, the decision to prepare financial statements under IFRS should be consolidated in accounting policies. Companies that make consolidated financial statements under IFRS send by letter the relevant information to the state statistical bodies in the timeframe foreseen for submission of such reporting (paragraph 11 of the Order No. 419).

In transition to IFRS, IFRS 1 First-time Adoption of International Financial Reporting Standards should be applied. But first of all it is necessary to determine the date of transition. When preparing the first IFRS statement, it is necessary to distinguish clearly between: the date of the transition, that is, the beginning of the first period for which the entity provides the full comparative information in accordance with IFRS (Appendix I to IFRS 1); the reporting date of the first IFRS financial statements, which refers to the date of the end of the first reporting period under IFRS, which is determined taking into account the date of transition to IFRS and the period for which the previous financial statements of IFRS comprise, containing the first comparative information. To comply with the principle of comparability of data, the date of transition to IFRS should be at least two years before the reporting date of the first IFRS financial statements.

Business entities that are converting to the preparation of financial statements according to international standards must take into account the differences in the application of P (C) BO and IFRS. Let's examine in more detail how the general principles for submitting information, established by P (C) BO and IFRS, are different. There are different points of view on how financial statements are prepared for P (C) BO, in accordance with the requirements of International Standards.

The object of discussions between domestic and foreign scientists is the significance of differences and their impact on the quality and reliability of information.

Some authors suggest that creating and introducing national standards in domestic accounting practices was inappropriate at all. In particular, Dmitry Parfyth, senior partner of PricewaterhouseCooper, said that «... the transition to Ukrainian accounting standards that are not recognized and unclear in the world is a waste of time. Let the experts say that they are based on International Accounting Standards, but if they are not international standards, they will not be accepted in the world. And Ukrainian companies that want to work in the West will incur additional costs» (Parfitt, 2010).

The World Bank report (Schneidman, 2013) even though progress was made on accounting standards, it was stated that these standards did not provide the level of transparency and comparability required by IFRS.

In previous years, within the framework of several projects, an analysis was carried out on the compliance of the Accounting Regulations (Standards) and International Financial Reporting Standards. As a result of this analysis, the experts of the IVTSI Company, which implemented the "Private Accounting Reform Project in Ukraine", concluded that the Accounting Regulations (Standards) did not comply fully with International Accounting Standards, therefore, instead of developing national standards, Ukraine should adopt International Accounting Standards in the "pure form".

A similar view was expressed by Hill, 2010, Senior Specialist in International Accounting Standards of the United States Agency for International Development: "If reporting is based on local standards that are significantly different from international ones, this will lead inevitably to a discrepancy in the results that makes it impossible to match reliably factors of the Ukrainian enterprises with factors of their foreign competitors without transforming their financial statements. "

2. The main differences in the conceptual provisions between the Accounting Regulations (Standards) and the International Financial Reporting Standards

The distinction between the Accounting Regulations (Standards) and the International Financial Reporting Standards is recognized at the legislative level. This is confirmed by the presence in the Law of Ukraine "On Accounting and Financial Reporting in Ukraine" (as amended on December 22, 2011) that obliges public joint stock companies, banks and insurers, as well as companies from the list established by the Cabinet of Ministers to provide Reporting according to International Financial Reporting Standards (Zakon2, 2011). Consequently, if for the specified economic entities reporting is compulsory according to international standards, the differences between the Accounting Regulations (Standards) and the International Financial Reporting Standards, in the opinion of the legislator, are significant.

In order to verify the truth of the above assertions, it is worth analyzing how the application of International Financial Reporting Standards affects on the indicators of financial statements in comparison with national standards on a concrete example. In

particular we will consider the reporting of PJSC Kiyevenergo - a power complex of thermal power plants, electrical networks, adjustment, construction and other divisions which provide the capital of Ukraine with electric and thermal energy. PJSC Kiyevenergo makes the reports according to standards of both the international and national standards that allow to compare their compliance.

Based on the comparison of indicators, choose the Financial Statement for 2018, which is formed in accordance with the International Financial Reporting Standards and the Balance Sheet for the same period, drawn up on the basis of the Accounting Regulations (Standards) (Kyivenergo, 2017). It is clear that in the case of the identity of the norms of standards, the value of the indicators of the balance must be equal. Since the reports compiled according to international standards reflect information in dollars, the comparison of indicators is impossible without taking into account the official exchange rate.

The official exchange rate of the US dollar as of December 31, 2018 amounted to 27, 70 UAH. for $ 1 (Ibra, 2010). Taking into account these data and transferring the indicators of the statement of financial position, prepared in accordance with International Financial Reporting Standards, in UAH, we note that the amounts do not coincide with the information presented in the balance sheet, formed in accordance with the Accounting Regulation (Standards). There is a difference in the result of the balance, which is about 66 million UAH, that is, the sum of indicators in the report, compiled according to the International Financial Reporting Standards, is lower. This is evidence of non-compliance of national accounting standards with international norms. In order to determine the reasons for the discrepancies, we will compare the conceptual provisions and general requirements of IFRS to financial statements with similar norms of Ukrainian legislation and Accounting Regulations (Standards) (Table 2).

Table 2. The main differences in the conceptual provisions between the Accounting Regulations (Standards) and IFRS

	AR(S)	IFRS
Prudence concept	Established as one of the main principles of compiling financial statements	Not considered as the principle of compiling Financial Reporting
Expenses-benefit ratio	Not a condition for accounting and compiling Financial Reporting	It is considered as one of the grounds for providing data in the Financial Statements
Deviation from standards	Not allowed	Allowed as an exception if implementation of requirements of the standard can mislead the user so that it will contradict the purpose of drawing up Financial Statements
Use of analogies	Not allowed	If the IFRS system does not contain provisions governing the accounting of a transaction, then it is permitted to use the provisions of other standardization systems that are related to the IFRS system

There are differences in the basic principles of financial statements construction. While implementing IFRS in Ukraine, most of the principles were specified in the Law of Ukraine "On Accounting and Financial Reporting in Ukraine". However, it cannot be argued that in practice all of them are actually used.

As for essence, it is possible to note that, unlike the International Accounting Standards, the Ukrainian regulations (standards) do not consider essence of information as an instrument for ensuring relevance and reliability of financial statements. Therefore it is obvious that display of some elements of the reporting are difficult for a domestic accounting system.

There are inconsistencies regarding the composition and format of the financial statements, which may be an important factor in generating qualitative and reliable information about the financial position of the entity (Figure 1).

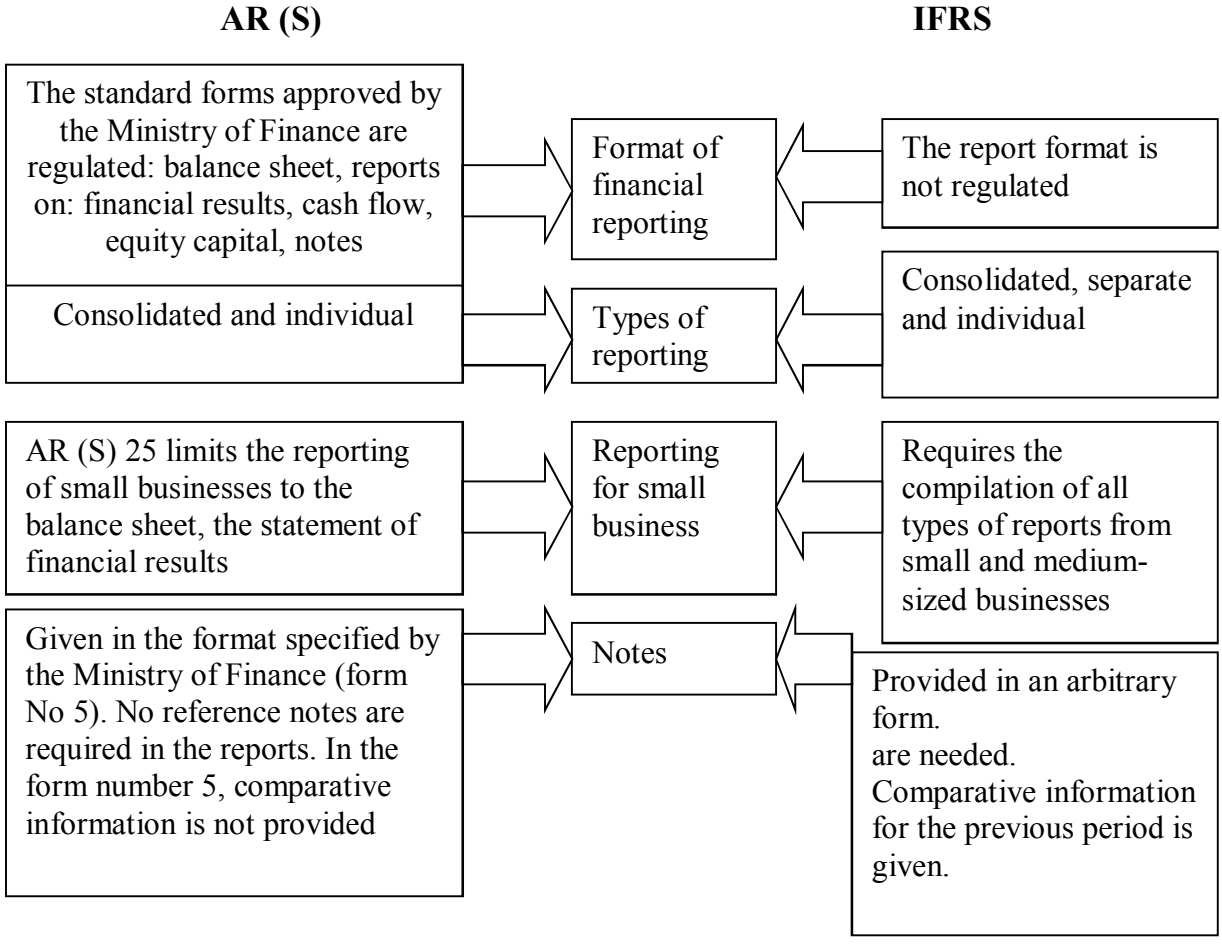


Fig. 1 Formatting and reporting: inappropriate between AR (S) and IFRS

The composition and format of financial reporting in Ukraine is approved by the Ministry of Finance at the legislative level. Such a rigid regulation, in our opinion, is the main source of the differences that arise between domestic and international standards in this regard. Because IFRS prioritize the professional judgment of the object of accounting, while AR (S) contain a clear instruction, the deviation of which is not allowed.

An analysis of the compliance of AR (S) with international standards has shown some differences that affect both conceptual provisions and separate aspects of accounting and financial reporting.

It is worth paying attention to the significance of such discrepancies, which determines their impact on the quality of financial reporting and compliance with international standards (Figure 2).

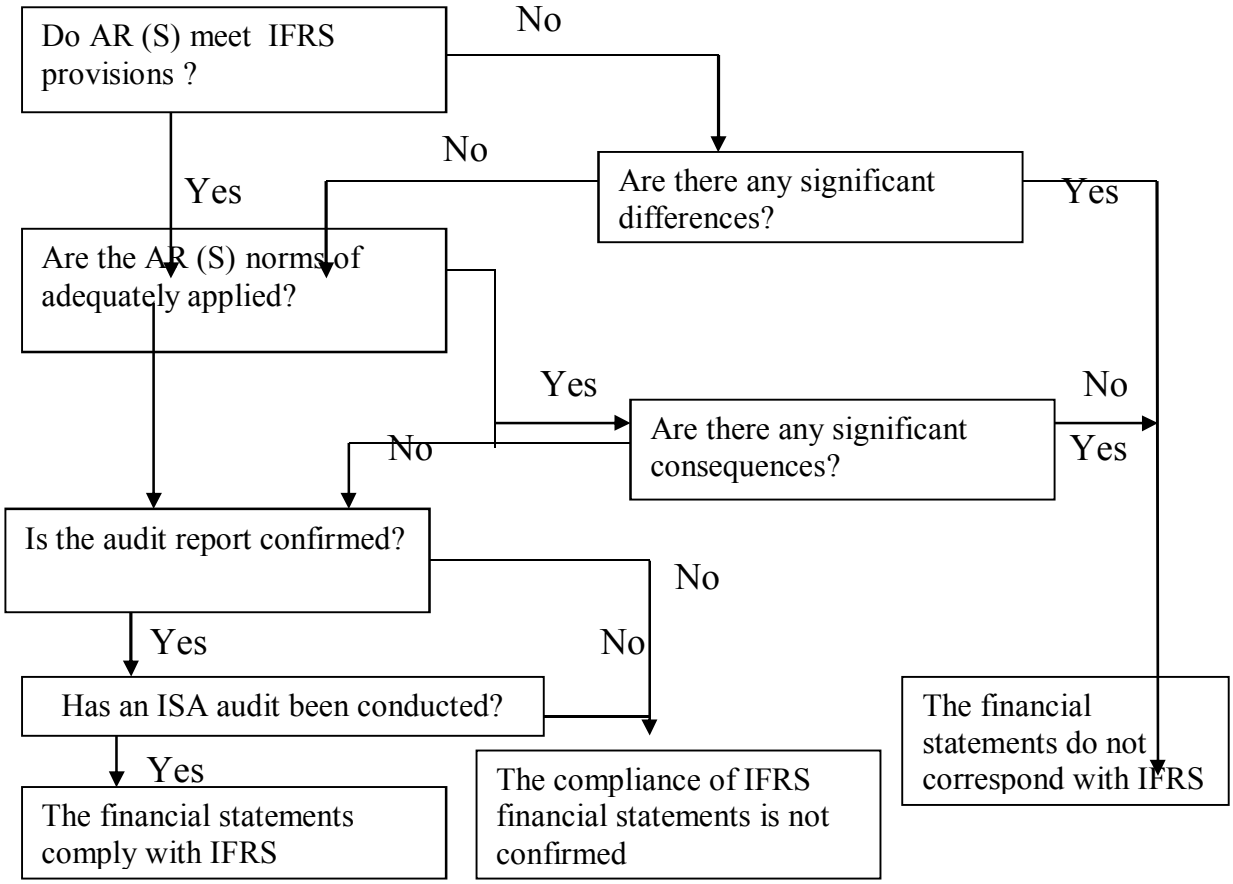


Fig. 2. Algorithm for analyzing the compliance of financial statements with IFRS requirements (Golov, 2017)

According to this algorithm, compliance with the reporting made under AR (S), all requirements of IFRS may exist only under the following conditions: the identity of the conceptual framework and the compliance of AR (S) norms with the IFRS regulations; understandable interpretation and compliance with the AR (S) requirements; insignificant impact of existing differences on the quality of financial reporting; the audit report confirms the compliance of the financial statements with the IFRS requirements.

According to this algorithm, compliance with the reporting made under AR (S), all IFRS requirements may exist only under the following conditions: the identity of the conceptual framework and the compliance of AR (S) norms with the IFRS regulations; understandable interpretation and compliance with the AR (S) requirements; insignificant impact of existing differences on the quality of financial reporting; the audit report confirms the compliance of the financial statements with the IFRS requirements.

Nowadays, there is no clear toolkit for accountants regarding the practical application of IFRS for the preparation of financial statements. This includes the reporting format to be used, the recommendations for the first application of IFRS, the comparison of national and international standards for a better understanding of the requirements of the latter, clarification of specific norms of the defined by IFRS, terminology, availability of methods for the transformation of financial statements and procedures for auditing IFRS and other reporting. In order to apply IFRS adequately, it is necessary to develop regulatory accounting with respect to accounting, which is an important task entrusted to the Ministry of Finance of Ukraine and the National Bank of Ukraine. This task is also provided for in the Memorandum. For its successful implementation, it is also necessary to involve not only regulators, but also scientists and practitioners, as well as members of professional organizations. It is important to understand that these measures are only a way to implement IFRS directly and are not intended to take into account national interests and institutional features.

4. Organization of international professional organizations.

Even in the Program for the reform of the accounting system with the application of international standards, one of the tasks of the reform was the active work in international professional organizations (Minfin, 2012). To date, three Ukrainian professional organizations of accountants and auditors are members of international accounting organizations. However, analyzing the current state, one can state that the task set by the Program is only half done. As noted in the program, the key point in this plan should be active work in international organizations. And this, in our opinion, involves the participation of representatives of domestic regulators and professionals from non-governmental organizations in the work of the relevant international committees that are developing and approving international standards. This is perhaps the only opportunity to take into account national interests and institutional peculiarities of the development of the Ukrainian economy, as well as domestic positive achievements in the theory and practice of accounting.

In particular, it is known that the development and approval of international financial reporting standards and the International Financial Reporting Standards for Small and Medium-Sized Enterprises is undertaken by the IASB. Members of the Board are appointed by the International Financial Reporting Standards Fund, which today consists of 20 Trustees (Figure 3). Furthermore, the structure of the standards-setting bodies includes the IFRS Advisory Board and the Interpretation Committee. To date, these bodies do not have domestic experts in accounting and auditing. It is worth noting that this also applies to all countries of the former Soviet space. As a result, the use of international standards in the light of the economic and legal environment and the state of market relations in Ukraine, as foreseen by the Accounting Reform Program, and simple implementation without any adaptation, has become weaker.

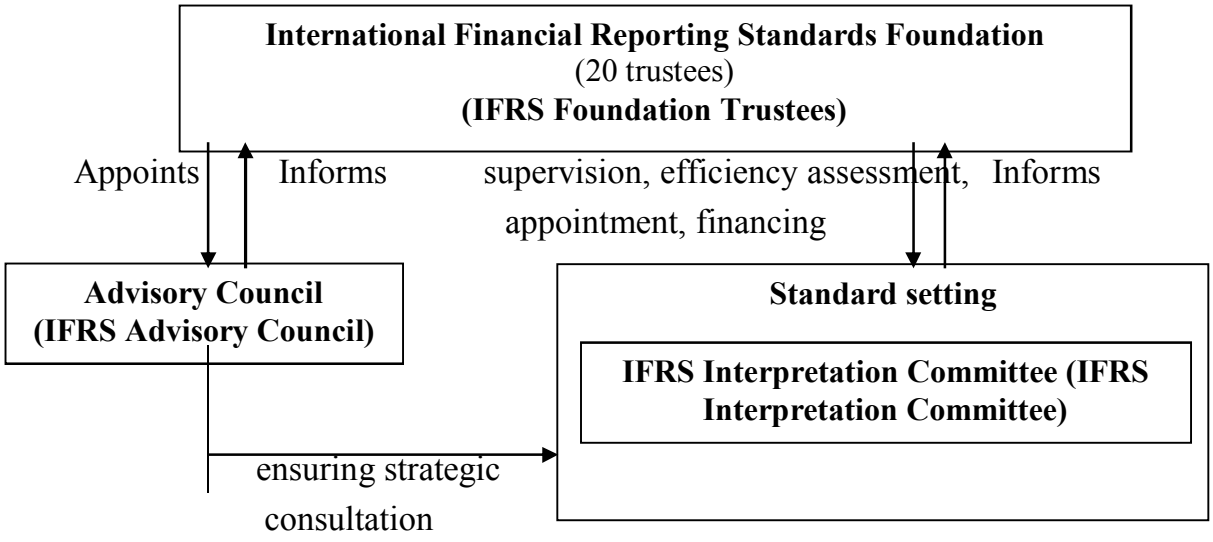


Fig. 3 Structure of bodies for the development of international standards of financial reporting (Source: http://www.ifrs.org/)

We consider that with the enormous potential of scientists and practitioners as well as domestic developments in the field of accounting, it is necessary to consolidate the efforts of the regulatory authorities, especially the Ministry of Finance of Ukraine, and professional organizations of accountants and auditors for active cooperation with the above bodies on the initial stages, and the entry of domestic representatives to these bodies in the future. As noted above, this will allow you to influence the regulation of accounting globally even at the stage of developing international financial reporting standards and to take into account national interests and institutional features. As it was noted above, it will allow to influence accounting regulations on a global scale at a development stage of International Financial Reporting Standards and to consider the national interests and institutional features.

With regard to the practical IFRS implementation directly at enterprises, it can only be carried out subject to the availability of specialists with relevant knowledge. The same applies to specialists of state and independent controlling bodies, which will be based on the control of correct application of standards and authenticity of financial reporting data.

Today, the formation of professional accountants and auditors is carried out under the influence of several institutions: higher education, vocational education and professional media. If professional organizations and the media are sufficiently involved with IFRS implementation and need only to strengthen their role and activity for a more successful transition to the IFRS application, the higher education institution needs more substantial changes to the requirement for successful IFRS implementation. The Higher School does not comply fully with the requirements of accounting specialists training to apply IFRS for the compilation and presentation of financial statements. The disgraceful fact is that the training course on IFRS in higher education institutions for the relevant specialty is optional, such as is being studied on the student's choice, and is actually an overview. In addition, no Memorandum is foreseen in this area.

The basis of training specialists in any field has always been and will be higher education. Therefore, the Ministry of Education and Science should be involved in the Memorandum and provide for the revision of the programs of training of specialists in accounting and auditing and bring them in line with modern requirements.

The problem of controlling institutions is also very acute in IFRS implementation. At present, it is not yet clear which body will be responsible for monitoring compliance with IFRS. If the Ministry of Finance is responsible for the methodology, which body will be responsible for monitoring compliance with this methodology. This question is open today. There are several options for solving this problem: the creation of a special body, or the delegation of authority to the National Commission on Securities and Stock Market. Of course, in this issue, an important role is assigned to an audit, which is an independent institution that acts in the public interest to verify the accuracy of information contained in the financial statements.

Implementation of measures for changes at lower levels of the institutional hierarchy of IFRS implementation will promote gradually successful reforms in "people's heads", that is, the reform of informal institutions of accountant, auditor, owner, manager and user of information (reporting). This level of institutional hierarchy in accounting is the highest and most stable (conservative), and only positive changes at this level will prove successful implementation of measures to implement IFRS in Ukraine. International standards, despite their apparent semantic difference, correspond with each other. For example, in the accounting for fixed assets only the provisions of IAS 16 Property, Plant and Equipment are insufficient - other standards that are consistent with IAS 16 in these matters are required. So: in accounting of operations of acquisition of fixed assets in the course of business combination the accountant should agree on separate provisions of IAS 16 with the corresponding paragraphs IFRS 3 Business Combinations; in accounting of operations of acquisition of fixed assets by means of the credits and loans of IAS 16 it is necessary to coordinate with IAS 23 Borrowing Costs; in accounting for the acquisition of fixed assets at the expense of government grants (targeted financing), except for IAS 16, we will need IAS 20 Accounting for Government Grants and Disclosure of Government Assistance; in accounting for purchase and sale of fixed assets in exchange for shares can not do without IFRS 2 Share-based payment.

Accounting for lease transactions is regulated by a separate standard, IAS 17 Leases. Similarly, a separate standard (IAS 41 Agriculture) regulates the accounting of such types of fixed assets as biological assets. And before carrying out a sale of fixed assets, we must transfer such assets to a separate item of long-term assets held for sale, in accordance with IFRS 5 Non-current Assets Held for Sale and Discontinued Operations. In addition, IAS 36 Impairment of Assets is perhaps the main standard for accounting for all long-term assets: tangible, intangible and financial. And in many aspects of accounting for fixed assets we cannot simply do without this standard (Tomilova, 2018).

Similar examples can be given also for other objects of accounting and elements of reporting: there is the main (profile) standard to which there are surely corresponding. And for example for such elements of the reporting as obligations and reserves, there are some profile standards such as: IAS 19 Employee, IAS 20 Accounting for Government Grants and Disclosure of Government Assistance, IAS 26 Accounting and Reporting by Retirement Benefit Plans, IFRS 2 Share-based payment, IAS 32 Financial Instruments: Disclosure and Presentations, IAS 39 Financial Instruments: Recognition and Measurement i IAS 37 Provisions, Contingent Liabilities and Contingent Assets.

Conclusions.

The analysis of the compliance of AR (S) with international standards showed the existence of some differences, both in conceptual foundations and in individual accounting elements. This factor significantly affects the quality of information and the significance of financial reporting indicators in general, which results in mistrust of international investors regarding the truthfulness of the information provided. Therefore, it is possible to consider the reports compiled for AR (S) as meeting international requirements only under the following conditions:

Firstly, compliance with the norms of the national standards with the provisions of IFRS and the insignificance of existing differences;

Secondly, an adequate interpretation and compliance with the AR (S) norms;

Third, the availability of an auditor's report on the compliance of financial statements with the requirements of IFRS, compiled on the basis of an audit conducted for the MSA.

The development of the accounting system in Ukraine isolated from world trends in its development is not possible under the conditions of global globalization. Recent legislative changes in terms of accounting reform are only the first step towards IFRS implementation in Ukraine. These changes require the urgent implementation of a series of measures at all levels of the institutional hierarchy of the IFRS introduction, the successful implementation of which should ultimately contribute to the gradual entry of Ukraine into countries with a methodological impact on the development of the global accounting system. This will enable to take into account national interests and institutional features of the development of the domestic economy in terms of more attractive and reliable coverage of values inherent in the domestic economy.

Financial reporting under IFRS has become one of the prerequisites for access to international financial capital markets, as it allows: attracting investment through its transparency and clarity to international players; reduce the value of attracted capital (there is no need to perform unnecessary procedures for analyzing, comparing and translating accounting under investor-understandable standards); increase international investment; facilitate the standardization of information systems for keeping records; IFRS audit is made more effective by the interconnection of IFRS and International Standards on Auditing (ISAs) with a single understanding of the objectives of financial reporting.

International Financial Reporting – this is reporting for investors! Large countries and multinational companies are interested in IFRS. The largest donors of the IFRS Fund in the person of states are (in descending order): China, the European Union, Great Britain, France and Russia. The largest donors in the person of private business are: US companies (Citigroup, Morgan Stanley, Bank of America, Microsoft, CFA Institute, Oracle), Germany (BMW, Adidas, Bayer, etc.), Big Four auditing firms (KPMG, PwC, Deloitte, Ernst & Young).

References.

Butynets, F. F. (2012). *Accounting in foreign countries*. Zhytomyr: Ruta [in Ukrainian].

Golov, S.F. *(2017). Accounting in Ukraine: analysis of the state and prospects of development.* Kyiv: MIM [in Ukrainian].

Ibra (2010). Independent bank rating agency: information portal. *Retrieved from: http://ibra. com.ua. [in Ukrainian].*

Minfin (2012). *International Financial Reporting Standards (translation version in Ukrainian - 01/01/2012).* Retrieved from: http://www. minfin.gov. ua. [in Ukrainian].

Kyivenergo (2017). *Official site of Kyivenergo companies.* Retrieved from: http:// kyivenergo.ua. [in Ukrainian].

Parfitt D. (2010). The NBU and the IMF made us a good advertisement. *Ukrainian Investment Newspaper, 22, 1,5.* [in Russian].

Petruk, O. (2015). *Harmonization of national accounting systems.* Zhytomyr [in Ukrainian].

Zakon (2011). *Accounting regulations (standards) with changes and additions.* Retrieved from: http://zakon1.rada.gov.ua/. [in Ukrainian].

Zakon (1999). On Accounting and Financial Reporting in Ukraine № 996-XIV. (1999, Jule 16). *Vidomosti Verkhovnoyi Rady Ukrayiny.* Retrieved from: http: // zakon2.rada.gov.ua/laws/show/996-14. [in Ukrainian].

Zakon (2011). On Amendments to the Law of Ukraine «On Accounting and Financial Reporting in Ukraine» № 3332-VI. (2011, May 12). *Vidomosti Verkhovnoyi Rady Ukrayiny.* Retrieved from: http://zakon2.rada.gov. ua/laws/show/3332-17. [in Ukrainian].

Hill B. (2010). *Comparison of National Accounting Standards (Standards) of Ukraine with International Accounting Standards: Financial Learning Program.* Kyiv: USAID Capital Markets Project. [in Ukrainian].

Schneidman L. Z. (2013). *How to use IFRS: studies. manual for universities* Moscow: Buch. accounting. [in Russian].

Worldbank (2012). Report on the observance of Standards and codes (ROSC). Accounting and Auditing. Retrieved from: http://www. worldbank. org [in Ukrainian].

Tomilova, N.O. (2018). *Institutional and management arrangements of tax burden optimization on the agricultural enterprises.* Financial and credit activity: problems of theory and practice, 1(24), 213-221.

Alina Zaderey
Senior Lecturer of Department of Management and Sea Transport Economics, National University "Odessa Marine Academy"
Inha Kucher
Senior Lecturer of Department of Management and Sea Transport Economics, National University "Odessa Marine Academy"
Nataliia Lysenko
PhD of Economics, Associate Professor Department, National University "Odessa Marine Academy"
Odessa, Ukraine

IMPROVEMENT OF THE TRANSPORT REGION INFRASTRUCTURE A PRECONDITION FOR THE EUROPEAN INTEGRATION OF UKRAINE

Abstract*. The actual question is not just transportation management, but and regional management of traffic flows and infrastructure facilities with using of intelligent technologies combining all modes of transport within a single information field. This task is very important and complex, its implementation requires a layered approach, from the justification of the special principles of the transport policy and management of the sector at national and regional level, overcoming interdepartmental administrative barriers to optimize forms of transportation documents. The development of scientific research in the sphere of new technologies in traffic management is one of the areas that is most dynamic in the world. The researches of control systems of regional infrastructure show that in the organizational structures the absence of information component is traced. The consequence of this is a lack of high quality information, that leads to the fact that regional governments use inappropriate methods of regulation. This, in turn, manifests in the ineffective development forecasts, programs and plans. Therefore, centers which would form and accumulate the flows of necessary information on different levels of control are indispensable.*

JEL Classification. O1

Introduction.

In conditions of deepening European integration role of transport and transport infrastructure significantly increases as labor mobility is increasing and both international and domestic trade intensified. This forces national governments to seek additional resources for transport development and upgrading of transport infrastructure.

The state and level of development of transport infrastructure is one of the most important factors of socio-economic development of EU member states. Infrastructure investments of EU member states serve as an effective tool to create favorable conditions for economic development, new workplaces and contribute to the improvement of the structure of social production, the maintenance of balance in the economy, create the necessary raw materials for the development of all sectors of the national economy (Borschevsky, 2017).

To settle one of the major tasks of the transport sector - ensuring a high level of competitiveness of the transport system of Ukraine - a very necessary development of high-performance transport and logistics infrastructure that provides commercial speed and reliability of transport services, including the wide implementation of intelligent transport systems in the management of transport. In the economy of Ukraine transportation infrastructure is involved in providing cycles of commodity-money circulation, helps to speed up circulation of material, financial, information, human resources. It is a separate component of each of the areas of social reproduction, production, distribution, exchange and consumption, as is essential for economic development of Ukraine (Shiba, 2016).

Ukraine by criterion for "infrastructure" continues to lose positions and took 83th place in 2018, despite the fact that in 2016 it was in 75th place among 138 countries in the annual ranking of competitiveness countries (Global Competitiveness Index). The best results the railways showed - 34th place, and the worst - highways (134th place).

In the process of improving transport infrastructure as essential prerequisite for Ukraine's European integration the implementation of a comprehensive national transport strategy of Ukraine until 2030 becomes important.

The objective of the Strategy is to create a safe and efficient functioning of transport complex of Ukraine that is integrated to global transportation network, the needs of people in traffic and improving the business environment to ensure the competitiveness and efficiency of the national economy.

The Strategy will help Ukraine to be closer to the EU as it relates to the implementation of the Association Agreement and the creation of conditions that will promote the gradual integration of Ukraine into the EU internal market; improving the quality of transport services, effective implementation of administrative reform, fight against corruption, clarity in decision-making, clear delimitation of roles and division of powers between the executive agencies and business entities, ensuring the creation of equal conditions for the provision of transport services (National Transport Strategy Ukraine until the year 2030).

1. Information constituent in the structure of the regional infrastructure management system

The infrastructure of the region is an important part of the national economy and it is called up to provide conditions for its economic development, to provide standard vital activity of the population and procure competitiveness of enterprises in the region. The features of the infrastructure include the combination of production and non-production functions related to the provision of transportation services and high social and economic significance.

In the economy of any developed country a region of management, information is the basis of any improvement, any progress, which begins to dominate in any industry and any business. The development of the information technology is at the same time an important condition, indicator and outcome of the development of a country or region.

That is also a factor of attracting and developing business activity. A level of the development of information technology, technology of exploitation, of transfer and use of knowledge determines the rate of development of the socio-economic system (Makarenko, 2012).

The information constitution in the structure of the transport infrastructure management system will allow it to become flexible and change its organizational forms when the regional development strategy changes. Organizational restructuring will become fast and without any reducing of the efficiency of the functioning of the transport infrastructure management system, as the ability to change will be incorporated in the structure. Thus, in order for the structure to be flexible, the infrastructure management system must constantly have information about the internal state of affairs in the region and in the external environment, which is represented by demographic, economic, natural, technical, political and cultural factors. The development of this issue is extremely relevant and vital for the effective functioning of the management system for the development of regional infrastructure (Zablodska, 2015).

Implementation of the new management organizational forms of infrastructure supports the region in the form of regional informational center would make it possible to achieve the following purposes: to receive high quality information, accumulate and analyze it, to generate relevant reports for use them at all levels of government authorities as well as private investors and enterprises of the infrastructure. This will increase the informational awareness of regional bodies of the region's infrastructure management system; to add the whole work of the entire system of management of the regional infrastructure support necessary dynamism which will allow making management decisions adequately to the speed of information aging; to provide avoidance of conflict of department interests due to the organization of access to accumulated information ,as control of management of the infrastructure is supported in the region, in particular transport infrastructure related to the activity of many government structures, each of which has its priority objectives such as ecological, social, industrial ,etc.; to create conditions for fruitful interaction of private investor with regional authorities in the area of state-private partnership; to expand the capabilities of the existing structure of the system of the regional infrastructure management in the questions of effective interaction with infrastructure enterprises.

Therefore, at the heart of reforming of the structure should be an information component. That is necessary because the new restructured organizational structure is based on the ability of highly qualified personnel to make independent management decisions based on reliable and timely internal and external information.

The solution to the problem of information ambiguity(uncertainty), which appeared in the regions, should become an information center based on modern technologies. The center organizes collection, accumulation, storage and processing of economic and other information to the users.The basis of the functioning of the body of information support is the process of the information development.

As a result of such work with large amount of data some new information is formed. This information is granted to the users as information services. The service of the body of information support is a specific service. That means: when some informational content is provided in the form of the data set formed in a certain form at the request of users. The latter represents formally make messages. They arrive at the input of the subsystem and contain conditions of collecting and searching data as well as the following procedures of the received data. All variety of the forms and types of services of the information support body are formed on the basis of its activities, tasks and functions. Services must adequately respond to the changes in the environment that surrounds the body and take into account the particular requirements of each individual user. Consequently, the forms and types of information services founded by the information support body should be fixed by the relevant regulatory documents. But they also can be changed in the event of new circumstances (Sotnichenko, 2015).

Created body should be independently contained , that's why the quality of its services should be on the high level. Only in this case one or another pricing strategy can be used. Of course, the requirements of the quality of information services should be set out after marketing research of needs of the future consumers and the technical capabilities of the manufacturer called the body of information support. An approximate list of forms and types of information services of the information support body will be given. This types and forms will be provided as a system regional information center: informational support; information collection and storage; information analysis; evaluation; monitoring; diagnostics, information support; forecasting; information consulting.

Filling the substantial content part of the information services largely depends on the specialization of the infrastructure system supplying management of the region. Because of the transport infrastructure was accepted for consideration, the activity of the information support authority will be connected to this area:

1. Formation of primary and secondary information data sets.

2. Consumers who are users of the Authority with information support should be provided with the primary information in accordance to their requests.

3. Work with the secondary data on the preparation and dissemination of information in accordance with the information requests of consumers. For example, these types of information support include: conducting analytical researches and developing forward-looking surveys for the development of transport infrastructure in the country and its regions; provision of analytical, overview and forecast information on specific infrastructure projects.

The types of research directions , which are mentioned above , refer to the individual orders that are carried out for a special purpose and under confidential conditions, therefore, the results of work should also be confidential.

4. Informing about the types of origin sources of information. The sources of information except for the state and regional authorities of the Ministry of Infrastructure of Ukraine also include transport infrastructure enterprises. The information support authority

acts as an intermediary in the transmission of information. And it should provide consumers with background information about the information resources at their disposal.

5. Access to foreign information, analytical, statistical and forecast publications as well as the database. The information service providers of the information support authority should be transport infrastructure facilities, private investors inside and outside the country, and regional authorities.

The main users of the information support service are, first of all, the infrastructure management system of the region, which needs information to determine the priorities of redistribution of investment flows in the priority infrastructure projects for the region, as well as private investors who are participants in public-private partnership in the field of transport projects infrastructure. The services of the studied body can also be: local governments, infrastructure enterprises (investment objects), business structures as potential private investors, governmental and non-governmental organizations abroad which may be potential partners and investors (Makarenko, 2014).

The creation and development of an information support body requires significant financial resources, and at present state authorities are not able to allocate funds for the formation of such a structure, therefore it is advisable to create it first as a cooperative, combining finance, equipment, specialists, information capabilities of all interested organizations. For example, participants should be involved in attracting owners of the most significant in the region of information databases and organizations representing in the region the basic nodes of the largest electronic data transmission networks of public use. Consequently, the founders of the body of information support can include: regional authorities; private investors; educational companies, such as higher education institutions.

Thus, each of the above-mentioned probable founders is necessary for the effective work of the created organization. Regional authorities will be able to provide the legislative framework for the development of an information support body. In addition, regional authorities have access to data bases of various organizations. In the case of local authorities, the information support authority will allow information and analytical center to receive information on various infrastructure investment projects, as well as in general on the economic situation in the region. Participation in the organization of the information support of business structures, banks and institutional investors is necessary, as it becomes possible to initially fund the process of the information support body.

The next partners in creating an information support institution should become educational enterprises (higher educational institutions), because:higher educational establishments should provide the created body with qualified specialists in the field of information, economic and legal informatics, the latest information technologies; educational enterprises accumulate scientific and technical potential, which is not always fully utilized, there is a problem of unemployment of skilled personnel; higher educational establishments have the material and technical base and information resources of libraries (scientific, economic, technical literature).

The above composition of the partners, which should become the founders of the information support, will provide an opportunity for the rapid collection of data that already exists in the region and will create conditions for taking leading positions in the regional information market. Consider the procedure for introducing an information support body into the organizational structure of the regional infrastructure management system. The organizational structure will be presented in the form of a scheme Fig. 1

The body of information support, as an information subsystem, in organizational and economic terms is a set of information, financial, personnel and technical resources, organized in an appropriate manner.

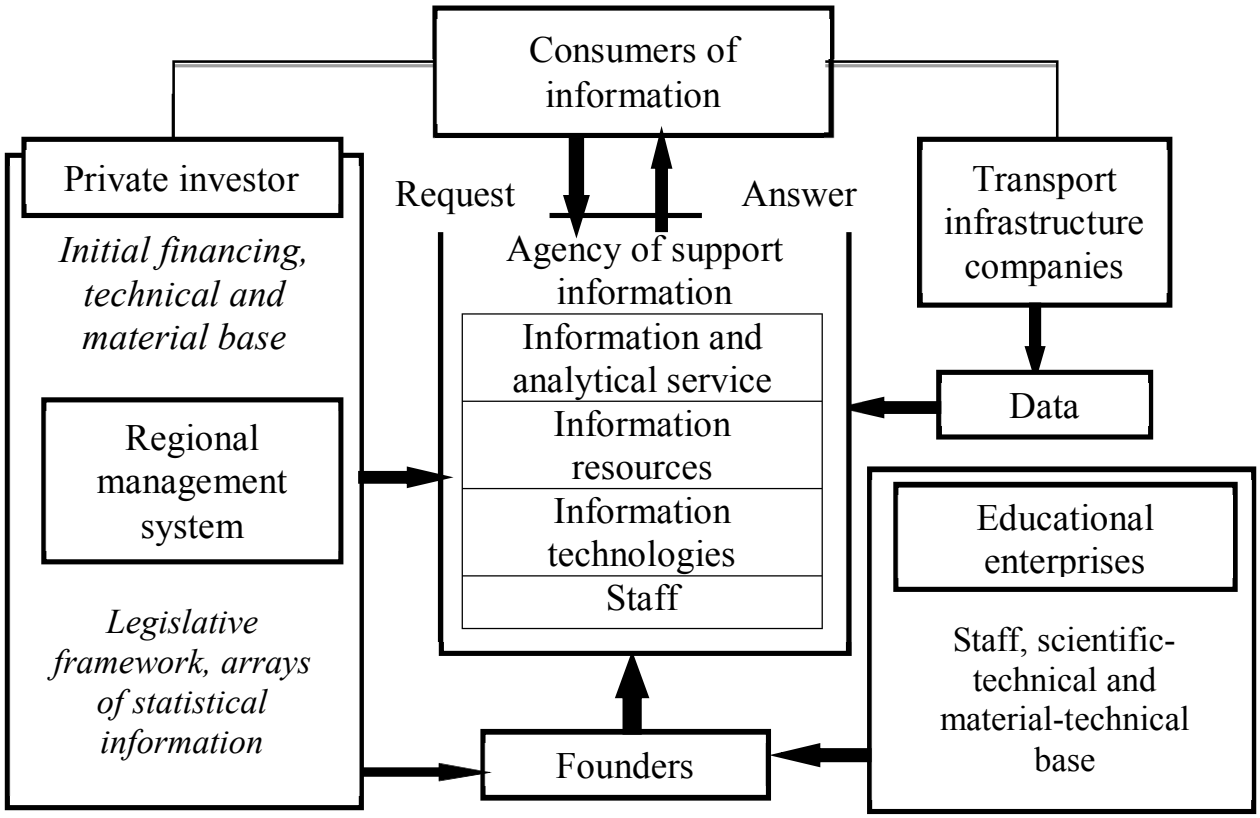


Fig. 1. Organizational structure of the the body of information support of the system of management of infrastructure of the region

The body of information support includes functional units, which: carry out analysis and evaluation of existing information needs of consumers; consider the types of services offered to meet the information needs of consumers; make formation and accumulation of information databases; implement, update, reorganize information databases; prepare proposals concerning plans and budget; investigate means to improve the functioning of the information support body to more fully meet the needs of consumers.

The body of information support, as an information subsystem, in organizational and economic terms is a set of information, financial, personnel and technical resources, organized in an appropriate manner. The body of information support includes functional units, which: carry out analysis and evaluation of existing information needs of consumers;

consider the types of services offered to meet the information needs of consumers; make formation and accumulation of information databases; implement, update, reorganize information databases; prepare proposals concerning plans and budget; investigate means to improve the functioning of the information support body to more fully meet the needs of consumers (Kopytko, 2012).

Particular importance in the body of information support is the information and analytical service, which performs the following activities: carry out the collection of legislative data, their registration, processing, as well as the collection of relevant macroeconomic indicators and their analysis; carry out the collection of data that characterizes the economic situation in the region and industries, registers, analyzes and evaluates them; carry out the collection and registration of data on transport infrastructure projects, check the completeness of documentation for these projects and the compliance of all types of their provision; carry out processing of infrastructure transport projects located in databases; carry out preparation of plans of infrastructure projects and their monitoring; carry out an analysis of the economic and financial situation of transport infrastructure enterprises, which became potential objects of investment; provide access for a wide range of consumers to information and processes requests. In addition, this group analyzes the quality of service; carry out the processing of individual consumer requests and provides consulting services. The functions mentioned above are constantly analyzing, adjusting in accordance with environmental requirements and market requirements.

But there are reasons or circumstances that may reduce the strength of the proposed information support body. These include, for example, the following: absence or imperfection of regulatory and legal regulation of the organization's activities; lack of sufficient financial resources for the operation of the information body; lack of relevant specialists for work in the information sphere; lack of the necessary modern material and technical base, software, scientific and methodological base; consumers are not ready to use the services of the body of information support.

Overcoming the above obstacles is possible by means of the following actions:

- preparation of regional authorities legislative and regulatory acts regulating the activities of the body of information support;
- use to create a body of information support of financial resources of private investors, which will become the founders of this body;
- the problem of the recruitment of relevant specialists and the resource base is being solved by involving the education information companies in the process of formation and functioning of the information support body;
- the use of marketing technologies, high-quality work with consumers will allow to spread the positive image of the body of information support [8].

Thus, the creation and functioning of the information support body will provide the necessary conditions for efficient management of the infrastructure of the region. This is due to the fact that:

1. Objects of transport infrastructure are the enterprises offering investment projects should be as open as possible to potential investors. The regional infrastructure management system and private investors should have the maximum access to any information that can help with the adoption of appropriate decisions. Information secrecy reduces the quality of the decisions that make it impossible to make any predictions, distributes asymmetry of information. With the functioning of the information support body, information openness and awareness will increase.

2. The management of the process of accumulation the infrastructure capacity should be provided with a mechanism for forecasting the situation. In the process of management, the subjects of management perform functions of analysis and forecast of the state of infrastructure of the region, taking into account the internal and external circumstances in the region. The body of information support provides all the information for analysis and forecasting. At the request of consumers, he conducts analysis and forecast of the development of the process of accumulation of infrastructure capacity.

3. The body of information support on the basis of relevant research can take on the role of training for state and regional authorities to develop regulatory documents that facilitate the activation of the accumulation of infrastructure capacity of the region .

4. The body of information support will unite all interested in the process of accumulation of the infrastructure potential of the region in the final and accessible for review a number of classes for the convenience of research and management of regional development.

2. Organizational culture in the formation of a new quality management of transport infrastructure

Today Ukraine is striving for a knowledge economy. It's often used in the last years judgments about post-industrial society as an information society. Of course, information is an important resource, but not a decisive feature, since information is a form of existence and manifestation of that wealth, which is the essential content of a new society, a society of knowledge. Knowledge and information are closely intertwined and interpenetrating: information often serves as a source of new knowledge, and knowledge is transmitted for the part with the help of one or another information. However, these are different categories. Knowledge is inseparable from human consciousness and is a special form of mental activity of man to penetrate it into the essence of phenomena, events, processes and facts of the surrounding world. Today, the enormous amount of knowledge accumulated by mankind exists mainly in the form of massive arrays and streams of information that is processed and used with the help of information and communication technologies and appropriate means. And these knowledge must be able to use (Sotnichenko, 2015).

The main idea of improving the quality of regional infrastructure management is to create conditions for the diverse progressive development of the population, the entire regional community. The term "new level of quality of regional infrastructure management" should be understood as the development and application of effective institutions, structures, mechanisms, tools and management technologies that ensure the growth of the region's competitiveness and result in an improvement in the quality of life of the population.

According to theoretical considerations, human resources management in the system of regional infrastructure management can give much greater effect if the following conditions are met: a fairly high professional level of senior executives; relatively well-developed internal conditions for the development of employees (individual career planning, training and retraining of employees, promotion of professional growth and rotation of staff); There are flexible forms of work organization and procedures; payment systems are used, based on the principles of comprehensive accounting of the professional contribution and the level of professional competence (knowledge, skills and skills that are actually mastered by employees); a fairly high level of participation of individual employees and working groups in the development and adoption of managerial decisions regarding their daily work is maintained; the practice of delegating powers to subordinates applies; there is an extensive system of organizational communication. Providing multi-faceted vertical, horizontal and diagonal connections within the infrastructure management system (Sotnichenko, 2014).

In different management structures, the history of development and the logic of the concept of human resources will vary in form, content and degree of applicability. To many managers in the system of regional infrastructure management, the insufficient level of knowledge and culture of ownership of scientific management tools does not allow the effective use of available human capital on the basis of the alloy of science and management art. In the formation of a new quality management of regional infrastructure is extremely important to play the development of organizational culture in the control system itself. The analysis of various other wording and signs allows us to determine that organizational culture is a certain set of values, norms, beliefs and attitudes shaping behavior, relations, actions of people, which characterizes the principles and rules of their communication and cooperation in the processes of life and development of a particular system .

Organizational culture is the basis for successful enterprise activity. It is precisely that it forms, first of all, the attitude of employees to the performance of their duties and the company as a whole. It can also be viewed as a strategic tool by which it is possible to orient the divisions of the company in order to achieve common goals, as well as to help a greater manifestation of workers' initiative and the creation of a supportive psychological climate. Each category of workers should understand the organizational culture.

Organizational culture is a complex and multifaceted system that combines intellectual, spiritual and social components. It promotes more effective adaptation of the organization to the external environment, is an effective mechanism for the integration of internal organizational processes.

The main elements of organizational culture are people who form organizational values, norms, principles, psychological microclimate, etc. Also, the effectiveness of organizational culture depends on a number of factors. Namely, how management creates an atmosphere of work and communication between employees at each level of organizational culture (Solokha, Marova, Zat'ko, Sotnichenko, Bieliakova, Moreva, 2018).

It is noteworthy that the totality of values, beliefs, attitudes, assumptions and informal rules constituting an organizational culture is not openly spoken or documented in the form of any code, but it will inevitably form the modes and norms of conduct. On the formation of a particular organizational culture, as a rule, a significant influence is shown above the management of the system (structure). It should also be borne in mind that almost everywhere the bureaucratic organizational culture that has developed in the regional management systems is of paramount importance needs to be substantially changed.

In the strategic aspect, in order to create an organizational culture in the system of regional management of the infrastructure, taking into account the not very satisfactory attitude of the public to the authorities, recommendations are proposed suggesting the following principal actions of the senior management: the official declaration of values, beliefs and norms of behavior both within the management system and in relations with the external environment; disclosure of objective criteria for hiring, selection, training, professional promotion of civil servants of different ranks; establishment of the order of formation of the personnel reserve and the system of motivation of career growth of employees; public awareness of civil servants and the public about the methods of conducting competitive procedures for filling vacancies; transparent definition of the level and size of remuneration and various rewards; establishing the procedure for delegation of authority; clear expression of leadership relationships to creativity, creative personality and creative development; declaration and full implementation of trust, justice and obligations regarding employees; clear gratitude to the public service attachment, the duration and impeccability of the performance of official duties; reproduction of organizational customs, traditions, rituals in the life of collective management structures; clarification of the priority of the positions of control and evaluation of the actions of subordinates on the part of management; statements about the attitude of senior management towards corruption, bureaucracy, procrastination, clannishness and other negative manifestations.

Positive organizational culture favorably affects the satisfaction of civil servants with their work. The formation of modern organizational culture will promote the development and intensification of the intellectual capital of the system of regional infrastructure management. The latter is considered as a set of three components: human capital (knowledge, skills, mental and creative abilities, culture, health of civil servants); social capital (stocks, storage, accumulation, transformation, transfer, transfer of knowledge arising as a result of network communications, relationships within the system); organizational capital (institutionalization of knowledge possessed by the system and incorporated in databases, instructions, rules, regulations, methods, management technologies) (Sotnychenko, Zaderey, Pavlenko, 2018).

Competence, cognition and dynamic capabilities of an infrastructure management system arise due to the close relationship between the above-mentioned critical components. Adapting to the new environments on the basis of recognizing and using the opportunities created by the rapidly changing environment and the ability to increase, update, transform, adapt and enhance their cognitive and competency in order to increase the efficiency of activities, innovation development and a dynamic ability of the infrastructure management system. The interconnected set of human capital, social capital and organizational capital generates the creativity of the system (strategies, projects, decisions, activities) of the regional infrastructure management system.

The functions of the organizations of the higher education sector include research, development and implementation of educational services. For the normal functioning of the interaction between the public and private sectors, a clear legal regulation and organizational provision of interaction of infrastructure projects in the sector of infrastructure is necessary. First of all, appropriate training of representatives of state authorities, local authorities and private capital which will be engaged in realization of the joint project, is necessary for this purpose. In this regard it is interesting US experience where each individual project is provided by individual approach because such projects do not have a template character. In each case an advisory body consisting of representatives of state structures and private companies is created, as well as training its participants in the regulatory and organizational and administrative peculiarities of the implementation of the public-private partnership project (Makarenko, 2012).

For Ukraine it is expedient not only to take this experience, but also to expand the scope of use of public-private partnership including in the partnership sphere provision to the students of practice bases when an employer works in the tandem of training of training a specialist, is ready to take part in financing part of expenses and to provide a base for obtaining practical knowledge, and an educational institution, which gives students the theoretical knowledge. This will strengthen the links between business and education, allowing to agree suggestions of the education system with the needs of the real sector of the Ukrainian economy (Sotnychenko, Zaderey, Pavlenko, 2018).

One of the main obstacles to modernize the infrastructure and to introduce innovations is the lack of qualified personnel. It is important to note that the development of intellectual capital, competencies, cognition, dynamic abilities and creativity of regional infrastructure management system will influence its organizational culture, giving it innovative character. In turn, the formation of an innovative organizational culture will serve as an institutional support for development and transition to innovative management of regional infrastructure. Strategic development of human resources in the management system assumes the current transition to innovative management of regional infrastructure. At this stage, the strategic development of human resources (staff, managers of various ranks, specialists and advisers) in the system of regional infrastructure management is a relatively new concept, rarely used in the theory and practice that have not received a scientific determination and disclosure of the contents.

Strategic development of human resources in the system of regional infrastructure management involves increasing the competencies, cognition, dynamic capabilities, creativity and job satisfaction of different categories of employees at all levels and in all administrative structures (ministries, departments, state committees, state structures) on the basis of permanent continuous education and retraining. At the same time, the strategic staff development is focused on creating a favorable organizational and socio-psychological climate that strengthens the commitment of civil servants and supports a stable process of close dialogue between managers and senior staff (Makarenko, 2014).

The peculiarity of this method consists in changing approaches to the development of educational standards and programs of additional education. The authorities of the management of education in the first priority ensure interconnection of the requirements provided formed by the external environment of the region to its transport infrastructure and identification of priority initiatives in the area of transport infrastructure with educational standards of higher professional education. The content of the standards based solely on the need for staff for implementation of transport infrastructure projects and in the area of public-private partnerships. In this case the training of personnel to ensure the current activities of enterprises should be transferred almost completely to the system of additional professional education.

The developed tool for managing the development of transport infrastructure in the higher education sector at its implementation will help to creat organizational and economic conditions for the complex development of transport infrastructure and consequently for the creation of regional competitiveness.

Conclusion.

Implementation of modern domestic transport systems will allow to improve efficiency of traffic management, to reduce unproductive transportation costs, to accelerate the development of national transport, territorial and IT infrastructure to provide a favorable climate for implementation services. Today it is necessary to combine legal, intellectual, technical, financial and administrative resources to ensure safe, secure, efficient, ecologically clean and comfortable movement of people and goods through Intelligent Transport System.

Taking into account the experience of the development of transport infrastructure of the countries of the European Union, domestic transportation conditions, the main directions of development of transport infrastructure in Ukraine: ensuring the competitiveness of transport services; EU integration and the development of export of transport services; improving the ecological compatibility, energy efficiency of transport processes; improving the efficiency of public transport management; the development of transport infrastructure.

Today the transport sector as a whole satisfies only basic needs of the population and the economy in the volume of traffic, but not in quality. The current state of the transport sector does not fully meet the requirements of effective implementation of European integration course of Ukraine and the integration of the national transport network into the Trans-European transport network.

It is necessary to increase the efficiency and competitiveness of the transport sector. These principles will provide a solid foundation for the sustainable development of the transport sector and the creation of a free and competitive transport services.

The competitiveness and development of transport infrastructure of a particular region in the short and long term will be determined largely by the quality of management, the effective use of progressive methods, technologies, achievements of modern management. The use of new technologies and tools for managing transport infrastructure requires regular renewal of knowledge and advanced training of management personnel, the use of modern information and communication systems. This requires both the involvement of fresh forces - managers and analysts with a new format of thinking and re-training of existing employees, continuous investment in human capital, the growth of the quality of human potential of regional governments and administrations.

References.

Borschevsky, V. (2017) Modernization of transport infrastructure in the process of approaching the EU: Polish experience for Ukraine. *International relations, 9.*

Zablodska, I. (2015) Infrastructure software of supporting the small business development in eastern Ukraine. *Economics and law, 3(42), 72-76.*

Sotnychenko, L., Zaderey, A., Pavlenko, V., (2018) Formation of the management mechanism of organizational culture development of the sea enterprise. *Manager. Bulletin of the DonNUU. The series "Economics", 4 (81), 23-31.*

Kopytko, V. (2012) Napriamy rozvytku transportnoi infrastruktury Ukrainy. *Retrieved from: http://eadnurt.diit.edu.ua/bitstream/ 123456789//905kopyt.pdf/.*

Makarenko, M. (2012) Competitiveness of the Regions: theory, methodology, practice. *Monographs , Donetsk: LTD "Shidniy vydavnychiy dim", 323.*

Makarenko, M. (2014) State-private partnership as the tool of increase of regions competitiveness. *Economy and the state, 8, 14-19.*

National Transport Strategy Ukraine until the year 2030. *https://mtu.gov.ua/files/strategy_ukr.pdf*

Sotnichenko, L. (2015) The management of development the infrastructural providing of region competitiveness: theory, methodology, practice. *Odesa: PPP Grin D.S., 524.*

Sotnichenko, L. (2014) Methodological approaches to regional infrastructure development management. *Economy and the state, 12, 59-64.*

Solokha, D., Marova, S., Zat'ko, J., Sotnichenko, L., Bieliakova, O., Moreva, V., (2018) Formation of theoretical and methodological bases of adaptation of the principles of sustainable competitive development of regions of regions of Ukraine on the basic of their infra-structure development. *Monograph Solokha D. (Ed.) Wydawca: European institute of postgraduate education – EIPE, Polska, 674.*

Shiba O.A. (2016) Strategy of Ukraine transport infrastructure in conditions of european integration. *Black Sea Economic Studies, Issue 8, 35-40.*

Liudmyla Davydiuk

Candidate of economic sciences, Associate Professor of the Department of Economics and International Relations of the Vinnytsia Trade and Economic Institute of KNTEU

Svitlana Kalinina

Doctor of Economics, Professor, Professor of the Department of Personnel Management and Labor Economics, Institute for Personnel Training of the State Employment Service of Ukraine

Viktoriya Kovalevska

Candidate of Economic Sciences, Deputy Director for Economic Affairs Branch "Donetsk Regional State Automobile Training Plant" UDP "Ukrintervastoservice"

FORMATION AND DEVELOPMENT OF THE INTERNATIONAL LABOR MARKET: METHODOLOGICAL DISCUSSION

Abstract. *The factors of development of the world labor market are investigated. The peculiarities of the modern international labor market are established. The economic theories of formation of the international labor market are analyzed. The functions and peculiarities of the modern stage of development of international labor migration are determined. The newest functions of international migration in the high-tech segment are highlighted. Identified economic and social effects of the development of the international labor market. The main segments and models of the international labor market are described. The main types of labor mobility in the international labor market are considered. The hypothesis about the influence of the migration component on the scale of the manifestation of global problems of world economic development are presented.*

JEL Classification: F130

Introduction.

The international labor market is a constantly changing dynamic system, defining new benchmarks for the development of national economies. As the processes of globalization intensify, the international labor market is becoming an increasingly important factor in the economic, social and demographic development of countries, acting as the leading link in the movement of productive forces and factors of production in the global economy. At the present stage, the international labor market acquires qualitatively new characteristics, turning into a mechanism by which countries are involved in the orbit of global economic processes. Thus, the international labor market is becoming a factor (part of) the processes of globalization, and their consequence, which stems from the need of a globalized world economy in a more efficient allocation of planetary human resources, which is manifested in the convergence of national labor standards, the international harmonization of rules and norms of labor activity, forming levers of supranational regulation of the labor market.

Under these circumstances, the main task of states is to determine the prospects for the development of national labor markets, including the search for mutually beneficial solutions that will enable countries with different levels of economic development to maximize the benefits of internationalization of labor supply.

In the given context, the relevance of the methodological discourse on the formation and development of the international labor market is increasing in order to develop an outlook on the transformation of international labor-resource flows. Conducting relevant research serves as the basis for developing a balanced approach to regulating the international labor market in order to reduce the current and future shortages of skilled labor, prevent brain drain, influence on the composition of labor migrants, and so on.

1. Theoretical foundations for the formation of the international labor market

Cross-border labor movements, along with the movement of capital between countries, form the *international level of the labor market*. In this case, the talk is not about the occasional movement of labor from one country to another, but about the emergence of buyers and sellers of labor, which are more or less permanently engaged in the search and sale of labor abroad. Thus, the *international labor market* can be defined as supranational education, where on a permanent basis interact with sellers and buyers of foreign labor force, participating in the process of selecting the necessary labor in the framework of interstate regulation of supply-demand labor.

The formation of the international labor market is evidence that global integration processes take place not only in the economic and technological spheres, but also extend to a more complex sphere of social and labor relations that are becoming global in nature today. Direct contacts come from different countries, which have different social experiences and dissimilar social traditions. The subjects of such contacts are, above all, joint multinational enterprises that arise in different parts of the world. Contacts arise also within the framework of separate transnational corporations, when moving across the borders of labor and capital.

The international labor market serves as a subsystem of the world economy and directly affects the dynamics of economic growth and macroeconomic equilibrium. But simultaneously the modern international labor market has a significant influence on a number of economic factors, namely, globalization and regionalization - on the one hand, global competition and technological progress - on the other hand, which establish a tight link between the parameters of the development and functioning of labor markets, social protection institutions national training systems, as well as the competitive positions of individual states on unified and liberalized markets. (Mytsenko, 2013)

The development of the world labor market is influenced by a complex of economic factors (Fig. 1): the international division of labor and specialization; STP, informatization and communication; international competition; development of international transport infrastructure; international mobility of capital; structural changes in the economy; liberalization of prices; international migration. In general, the causes of the economic nature are different levels of economic development of individual countries. The labor force moves from low-living countries to those countries where it is higher. Objectively, the possibility of migration appears as a result of national differences in terms of wages in one or another professional activity (Shahovskoy, 2013).

Features of the modern international labor market are as follows: (Shahovskoy, 2013)

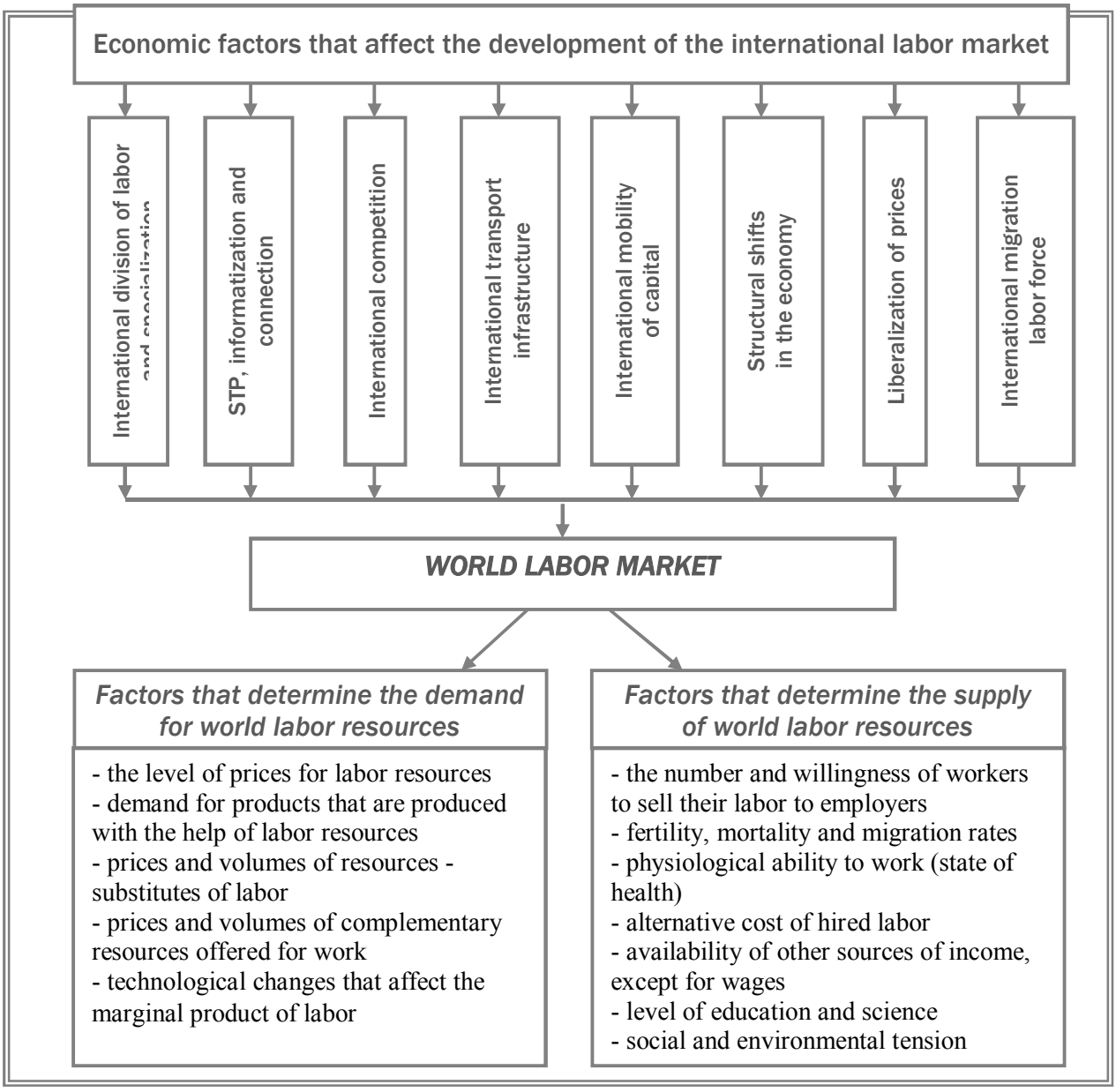


Fig.1 Influence of economic factors on the development of the world labor market

Source: Mytsenko, 2013

That is, the *international labor market* is a system of economic mechanisms, norms, and tools that ensure the interaction of labor demand and its supply on an intergovernmental level (Shahovskoy, 2013). There are a number of theories that explain the causes and orientation of international migration processes. The most widespread conceptual approach is derived from the classical theory (EA Lyus, J.Fei, G.Ranis), in particular, on the idea of the ratio of the factors of "pushing-drawing" of the population and labor force as the main driving forces of this process.

The theory of international labor migration (A.Ravenstein) explores the economic factors of labor migration, the relationship between the intensity of migratory flows and the directions of migration, formulates the relevant laws.

Since the late 60's of the twentieth century problems of labor migration are investigated within the framework of the *theory of economic growth*.

The neoclassical theory (Dzh.Harris, M.Todaro) substantiates the beneficial effects of emigration from the donor country to the recipient country. At the same time, it is considered that the economic situation in the donor country does not deteriorate. In general, according to the classical and neoclassical theory, surplus labor resources migrate mainly from rural areas with low marginal productivity to more developed urbanized areas. Often decisions on migration are explained by individual perceptions of more prosperous areas and countries, and not by the actual state of affairs.

In contrast to the aforementioned theories, representatives of historical and *structuralist concepts* explain the migration of economic and political inequalities between different actors (countries, regions, enterprises, individuals), when more powerful actors determine the direction of migration flows in a direction that is beneficial to them. These same theories recognize the importance of such factors as ethnic and family ties among migrants, the role of state regulation in this area.

Concern *Neo-Keynesians*, they note the negative effects for countries exporting highly skilled labor. In recent years, international labor migration has been considered within the framework of the *theory of human capital*. With moving it between countries, differences in rates of economic growth are associated.

The creation of the international labor market is, firstly, due to the migration (physical movement) of capital and labor (international labor migration generates the flow of huge inter-country flows, which reach hundreds of billions of dollars annually); secondly, by the gradual merger of national labor markets, when the legal, national, ethnic, cultural and other obstacles between them are finally eliminated. In some cases, the combination of capital and labor can occur without physical movement, with the help of telecommunication systems. At the same time, labor potential is combined with capital also in two ways: by migrating capital that crosses borders, and by migrating the labor potential itself through the borders to the places of greatest demand for it (Mytsenko, 2013).

Considering that as an economic phenomenon (the main factor of production), the labor force (the ability of people to work, a set of physical and spiritual qualities of a person, which she uses in the process of producing the necessary means of existence) - is a specific product offered by its carrier, a person who always looking for more favorable living and working conditions in conditions of hired labor, the owner of a workforce sells for some time his ability to work to the employer not only within the national borders, but also outside them in order to provide conditions for the reproduction own workforce. The latter forms the *international migration of the labor force (international labor migration)* as a process of spontaneous or organized movement of the able-bodied population within the framework of the national or international division of labor, due to the nature of the development of productive forces and industrial relations, the effect of economic laws.

Various sources of migratory flows exist for different host countries, although in many cases they coincide. This is due, on the one hand, to the role that the country of gravity plays in the modern world and its capabilities, and, on the other hand, to the specific historical, ethnic, geographical links between host and donor countries (Shahovskoy, 2013).

Employees on the international labor market can be divided to two main types: (Mytsenko, 2013)

- *contract staff* - employees who have legally established a relationship with the employer and whose term of stay in the host country is clearly defined. These include scientists, students, highly skilled specialists (programmers, engineers, etc.), unskilled workers employed in auxiliary works (construction, tourism, etc.), seasonal workers (mainly in agricultural work);

- *employees who work without a contract* - employees whose term of stay in the host country is not clearly defined: illegal foreign workers (whose visa expired or a tourist visa);

- *refugees* - those who are forced to emigrate from their countries due to their life threats (for example, from regions of armed conflict and natural disasters, from environmentally hazardous regions, etc.).

The main criterion that allows migration to be distinguished from other movements of citizens across borders is motivation, which may include the following motives: economic (job search, higher incomes, etc.); military (evacuation, re-evacuation, etc.); political (escape from political persecution, national discrimination, etc.); social (marriage, recreation, health status, etc.); environmental (environmental pollution, flood, etc.); others (force majeure, religious, etc.). (Fomishyn, 2011)

At the same time, at the present stage of world economic development, the domination of economic factors is indisputable due to the following *reasons*: the effect of the laws of capitalist accumulation, population, uneven economic development; significant differences in working conditions, wage levels, and conditions of entrepreneurial activity; the cyclical nature of economic development, the asynchrony of the economic cycle between different countries; uneven deployment of scientific and technological revolution (STP) and structural reforms; demographic factors, in particular the difference in natural population growth (in the twentieth century, the annual growth rate of the population in underdeveloped countries amounted to 2,5%, in developed countries - less than 1%).

Today, the international migration of the workforce has become global, accounting for 3% of the world's total population (one from 35 people is an international migrant). In fact, international migration has today become an integral part of globalization. Emigrants account for 25% of the employed in construction and 30% of those employed in the automotive industry in France, 50% employed in the mining industry in Belgium, 40% employed in construction in Switzerland. The governments themselves decide how much they need immigrants of one type or another to best contribute to the goals of socio-economic development of the country.

Under such conditions, the scientific and methodological problems of the classification of migration according to their place or role in the economy and society, sphere of self-expression, vectors or areas of distribution in order to understand migration in a narrow and broad sense are actualized. Interestingly enough is the point of view according to which, along with the concept of the *migration process* (as the course or course of any migration phenomenon, the consistent modification of its stages, periods and states, as well as the development of the related consequences of them), the following concepts are introduced into the scientific circle: (Rymarenko, 2007)

- *migration exchange* - interstate and interterritorial continuous social movements of the population resulting in temporary or permanent relocation of people to other countries or adjacent regions, resulting in one of the states or territories undergoing emigration, and the other - immigration;

- *migration rise* - a state of intensification of the migration process, migration or movement of the population, material or labor resources, including - that spatial movement, characterized by the following factors: the direction of the vector "initial stage - intensification - build-up"; a consistent increase in the volume or flow of migration per unit of territory or in comparison with the previous values - with the previous (previous) state of resettlement; the approaching of its continuous development to the highest point of the intensity of the migration process or the phenomenon associated with it; stay of the migration process in the stage of "prosperity";

- *migration space* - the territory through which the movement of migration flows of both natural and social origin, through which provides for the movement, resettlement, movement of migrants. Migration space is constantly accumulating human potential, while the subjects of the migration process, which consider the migration space as the natural and social environment, experience and counteract it from it and interact with it. Such interaction has an impact on the migration space, and through it - on subjects of the migration movement. Thus, the evolution of the migration space takes place - not only naturally, but also socially;

- *migration market* - a set of citizens, foreigners and stateless persons who can intensify the process of emigration-immigration with its direct participation in it, to form the basis of labor resources that are moving in the social space. The migration market can be divided into the national labor market and the international labor market.

Globalization makes some adjustments to the development of the international labor market. The signs of the globalization stage of the development of the international labor market are the formation of such migratory flows: (Rymarenko, 2007)

- *cross-border migration* - one of the forms of participation of the country in the international labor market for the successful development of its economic ties, strengthening the socio-cultural orientation of the population. To this end, bilateral agreements are concluded which provide for the free exchange of specialists in various sectors of the economy. At the given level, the regulated formation of the international labor market actually begins, which takes into account not only economic mechanisms for regulating the

demand and supply of labor, but also the complex of social relations, which accompany the labor force's ability to interregional and inter-sectoral movements, aimed at the zones of the most dynamic socio-economic development;

- *transnational migration* - the type of migration that goes beyond the boundaries of one state, has clearly expressed polyethnic scales and risks, a characteristic orientation of movement across borders and territory. That is, transnational migration means a migration movement that flows through the borders of two or more ethnic-social spaces, penetrating national and national borders in different directions. It should be noted that transnational migratory movements always have a goal, a task and a prospect.

The typology of *labor migration* in the international labor market can be represented as follows: for duration (regular, irregular); for restrictions on residence and work (contract, business); on the legal status of migrants (legal, illegal); in terms of qualifications (migration of skilled labor, migration of unskilled labor).

Another variant of the typology involves the following division of international labor migration: by the nature of the movement: (internal, external, integration); for terms (final, temporary, seasonal, pendulum); in directions (emigration, immigration, remigration); by way of organization (organized, voluntary, - amateur, forced); by professional staff (migration of workers, migration of specialists, migration of scientists, representatives of humanitarian professions); by the nature of migration (extensive, intense) (Rymarenko, 2007).

There are differences in the classifications of labor migration, as well as differences in the operation of various categories relating to external and internal migration, migration and displacement, etc. Thus, the basis of the classification of international labor migration, given in Table 1, laid the etymological content of this term and takes into account its main parameter - a change in the person's coordinates of his stay (Puryhina, 2007). It should be noted that the characteristic feature of modern international labor migration is its rotational nature. The development of modern migration processes is undoubtedly influenced by the fact that most countries are already included in the international labor market. The latter circumstance determines the content of the *functions of migration*: (Shahovskoy, 2013)

1) *the function of redistribution of the population*, associated with the placement of productive forces between regions of a country or between countries, due to differences in the provision of natural resources, as well as differences in the level and quality of life in different territories;

2) *a selective function*, the essence of which is that the unequal participation in the migration of different socio-demographic groups (especially men and women) leads to a change in the qualitative composition of the population of different territories;

3) *economic function* - is to ensure the combination of territorially distributed means of production with the necessary labor force and their operation in the production process;

4) *social function* - is in the quest for more complete satisfaction of migrants' needs by changing the place of residence and socio-economic infrastructure of the host country, which contributes to raising the standard of living and social development of workers.

Table 1.Classification of types of international migration of the population in international economic activity

Number	*Classification characteristics of separation*	*Migration division*					
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1	The direction of migration depends on the causes (motives, factors) that determine it	Economical	Political	Social	Cognitive	Recrea-tional	Ecological
2	Direction of migration depending on the actions of the migrant in the country	Labor migration (labor migration)	Family		Tourist	Business	Religious
			Educational		Therapeutic and wellness	Cultural and entertainment	Intellectual (scientific)
3	The nature of the decision to migrate a migrant	Sovereign (voluntary)	Forced			Coercion	
			Recognized refugees	Asylum seekers	Actual refugees, internally displaced persons	Displaced persons, exiles	
4	Crossing the administrative-territorial boundaries (region or state)	Interstate				International (interstate, international, foreign)	
		Internal		External			
5	The distance migrants overcome	Close			Far		
6	The duration of migration in time	Long-term (permanent, irreversible migration)		Short-term (temporary, reverse)			Transit
				Seasonal	Pendulum	Episodically	
7	The nature of long-term international migration relative to the place of departure or entry (the direction of movement) of the migrant	Irreversible			Rotary		
		Emigration	Immigration		Remigration	Repatriation	
8	Obtaining permission from the state authorities for the implementation of migration (legality of crossing the borders)	Legal		Half legal		Illegal	
9	Expectation of the migrant by the recipient country	Prepared (organized)			Untrained (unorganized, independent, amateur)		
10	Number of migrants	Individual			Mass (ethnic, collective)		
11	The number of migrant migrations	One-time			Multiple times		
12	By social composition	Migration of unskilled workers	Migration of high skilled workers		Migration of scientists, culture and sports	Migration of entrepreneurs	
13	By character	Direct			Indirect (in TNC or SP)		
14	By status type in the country of arrival (adaptive behavior)	Assimilation			Non-assimilation		
15	Conformity of the migrant's expectations to the result	Lucky			Non -lucky		
16	Consequences for the country	Good quality			Bad quality		

At the same time, this list of functions cannot be considered complete. In our view, at the globalization stage, migration, especially in the high-tech segment, performs, in addition to the above, the following functions:

1) *the function of labor supply of scientific and technological progress in the world economy* as a basis for the progressive development of mankind: through the territorial movement of the labor force, especially in the high-tech segment, the educational costs of the host countries are minimized (with a certain paradox being observed - the higher the level of economic development of the countries, the greater is the sum of savings on educational spending) and the time frame for implementing the achievements of the STP, the information economy (which leads to an accelerated pace of Lowering the levels of economic development of countries);

2*) stabilization function* - the international redistribution of labor force on the scale of the world economy serves as a stabilizing factor in the intellectual load per unit of output in the global economy (both through "direct" use in the receiving country's knowledge and "reverse" - upon returning to the country origin after a certain period, usually with acquired knowledge and skills that increase the basic quality of the workforce).

On the basis of the foregoing, it is possible to put forward the hypothesis that the migration component of the development of the international labor market, the content of which manifests itself through the functions of migration (the function of redistribution of the population, the selective function, economic function, social function, the function of labor supply of scientific and technological progress, stabilization function) slows speed and scale the manifestation of global economic development issues.

2. Economic and social effects of the development of the international labor market

International labor migration has significant ambiguous economic and social consequences both for the donor country and for the recipient country. Attributing those or other consequences to positive or negative cannot be final, but will depend on the specific socio-economic situation in the country (Table 2).

For example, the reorientation of investments from the heavy industry into the sphere of consumption has a negative character in the conditions of the saturated consumer market and a significant amount of unemployment in the country, in the situation of the same sharp deficit of consumer goods and goods, this result is of a positive nature. In addition, the various consequences are clearly unequal in terms of its impact on the country's economy: the reduction of the balance of payments deficit at a certain moment can outweigh all the negative effects of the international labor movement.

The system of economic ties that emerges between states as a result of labor migration is accompanied by a flow of goods and capital, including money transfers to the homeland of immigrants, as well as payment of compensation to exporting countries. It should be noted that the currency efficiency of the export of labor is at least five times higher than the currency efficiency of commodity exports.

There are four direct sources of income from the export of labor: taxes on profits of intermediary firms; direct foreign exchange transfers of migrants to their homeland; personal investment of migrants' money in the domestic economy; capital from the importing countries of the labor force, coming to the reproduction of labor resources (Elova, 2002).

Table 2.Possible socio-economic consequences of international labor migration

	Positive	***Negative***
Country is an exporter of labor	1. Occupation of a new qualification	1. Loss of skilled labor
	2. Reducing the balance of payments deficit	2. Increasing the dependence on foreign demand not only on goods but also on labor
	3. Lowering the tension in the domestic labor market	3. Reorientation of capital investment for the development of production resources for consumption
	4. Facilitation of structural and technological restructuring of production	4. Inflation growth
Country is an importer of labor	1. Facilitating the structure of regional shifts	1. It is blocking the introduction of labor-saving technologies
	2. Promoting the vertical mobility of local workers	2. It complicates the situation on the domestic labor market
	3. Reducing the cost of labor, general expenses related to the reduction of labor force	3. Increased costs for the maintenance of unemployed foreigners and their families
	4. Slowing down in price growth due to the propensity of foreign workers to save	
	5. Improving the quality of the workforce by selecting more young, skilled workers	

In addition, due to lower production costs associated with a lower cost of foreign labor, there is an increase in the competitiveness of the recipient country. Foreign workers, supplying additional demand for goods and services, stimulate the growth of production and additional employment in the host country. When importing skilled labor, the host side saves on the costs of education and training. Foreign workers are not provided with pensions, are not taken into account when implementing a variety of social programs and act as a certain shock absorber in the event of a crisis and rising unemployment. The systematization of economic effects of international personnel migration is presented in Table. 3

Table 3. Economic effect of international migration of personnel

For the recipient country	***For a donor country***
Positive effects	
- reducing costs and increasing the competitiveness of goods - increase of capacity of the national market - facilitating structural adjustment - promoting the balance of the economy - the influx of skilled labor - the host country uses a ready-made workforce without investing in its training - the possibility of using the achievements of a foreign culture	- reducing unemployment and, accordingly, the level of social tension - expanding the capacity of the domestic market at the expense of currency assistance emigrants to their families - former migrants, upon returning to their home country, become leaders in new knowledge and skills
Negative effects	
- an increase in the supply of labor and a reduction in its payment - the differentiation of incomes and social tensions is increasing, there is a basis for aggravation of national and religious contradictions - the consequences of illegal migration are particularly high because of its uncontrolled nature, the strengthening of its criminal structures, the growth of social instability - Possible threats to the formation of closed enclaves of the ethnic economy - possible threats of a surge of racism and xenophobia	- outflow of intelligence and skilled personnel - worsening of the age structure of the employed labor force, as the immigrants become mostly young and healthy

Some researchers believe that only the positive effects of international labor migration for the donor country and recipient country are assessed (Table 4), since their emergence contributes to the creation of instruments for regulating the international labor market through the use of opportunities to enhance the effects of these effects.

At the same time, the main negative consequences are connected, first of all, with the outflow of skilled personnel necessary for national economies. There is a so-called "brain drain" as a one-way migration of scientific and technical personnel within the framework of the world economy, mainly in developed countries, which leads to the loss of qualified donor countries (Shahovskoy, 2013).

Consideration of the positive and negative consequences of international labor migration is at the heart of defining the directions of state and regional policy and building a system of regulation of this process, which involves the creation of certain public institutions and structures governing international migration at different levels.

Table 4.The positive consequencesof labor migration for the donor country and for the recipient country

Positive Consequences	
Country - recipient	*Country - donor*
The inflow of currency from money transfers. Reduce the pressure of redundant labor resources and, accordingly, the social tensions in the country. Reducing unemployment. Taxes from intermediary firms. Free for the exporting country's labor force training new skills, familiarity with advanced work organization, etc.	Foreign labor force is a factor of development. Ability to move national labor force into high-tech industries. Savings on wages and training of specialists. Foreign workers increase the capacity of the domestic market, stimulate the growth of production and additional employment. Foreign workers, who are released first, serve as a shock absorber in the event of a crisis and unemployment. Savings on pensions and spending on social programs. Improving the demographic situation of developed countries associated with aging.

Source: Shahovskoy, 2013

Indicators related to labor migration in the country's balance of payments are presented as real cash flows and are classified in the following categories: wage income of immigrants, as well as remuneration for work in kind, including pension payments to residents, insurance and other funds related to the hiring of immigrants (non-residents); migrant movements that are reflected in the monetary value of immigrants' property imported into the country; the export of property of emigrants is shown as a monetary valuation of the export of goods; money transfers of migrant workers to the country from which they left; when sending goods is taken into account their estimated monetary equivalent (Shahovskoy, 2013).

The intensive movement of labor occurs between the states of Europe, North and South America, the African continent, South-East and West Asia. In the late 90's of the twentieth century. the total number of migrants has increased, first of all, due to integration into the global migration process of the countries of Central and Eastern Europe. At present,

the following areas of international labor migration have emerged: migration within the former USSR; migration within the industrialized countries; migration between developing countries; migration from former socialist countries to developed countries; migration from developing countries to industrialized countries; migration of scientists and highly skilled workers from industrialized countries to developing countries and vice versa.

The directions of international migration are changing with the changing economic conditions in individual countries, regions, the world economy as a whole. In recent decades, new directions and labor markets have emerged as a result of not only intercontinental, but also intra-continental migration (Fomishyn, 2011).

By all indications, the emerging international labor market has a pronounced segmented character, that is, within this market, there are several separate, relatively autonomous labor markets with their own laws of labor movement.

Usually in the structure of the international labor market there are two most significant segments. *The first segment* covers a workforce characterized by relatively constant employment, labor market stability, high levels of qualifications and wages, and a fairly clear hierarchy of qualifications. This is a privileged layer of workers from developed countries, as well as countries close to the average development level (Singapore, Taiwan, Hong Kong). These include those employed in international organizations (the UN, specialized agencies of the United Nations, the International Monetary Fund, the WTO, UNESCO, etc.). The hiring of employees in such organizations takes place on a purely international basis, usually taking into account only professional suitability. This labor market has a certain tendency to expand in view of the growth of international ties and the escalation of global problems. The second segment covers the labor force that comes from regions of the world with a relatively low level of economic development. Among the employees of this segment should be a specific category of illegal labor, whose flows are directed, first of all, to developed countries, in particular the United States, the countries of Western Europe, as well as so-called "environmental refugees", the layer of which is formed through the onset of catastrophic natural conditions.

This segmentation of the workforce reflects both the present state of the international division of labor, and the differences in the qualification of labor and demand for it. Segmentation of the international labor market eliminates the monotony of the labor force acting on this market. However, this does not preclude the formation of specific features and characteristics of employees' data, distinguishing them from employees who are present only in national labor markets. Thus, the first category of workers significantly weakens national preferences, they are more mobile and have a greater ability to adapt to the requirements of employers.

Possible also highlight the segmentation of the international labor market, which reflects both the international division of labor and the qualitative requirements for the qualification of labor and demand for it (Table 5).

Table 5.Main segments of the world labor market

Sellers of labor force	*Purchasers of labor*			
	TNC	*Small and medium enterprises of the developed countries*	*Enterprises of the developing countries*	*International organizations*
Privileged employees	x		X	
Employees who have information technology, programmers skills	x			x
Specialists of secondary qualification	x	x		x
Scientists				x
Highly skilled workers from Singapore, Hong Kong, Taiwan	x		X	
"Export workers" of Asia			X	
Female labor force (young single women)	x	x	X	
Migrant workers	x	x		
Illegal labor		x	X	
Ecological refugees			X	

Source: Mytsenko, 2013

In general, the *mobility of labor* as a characteristic feature of the modern international labor market is the presence of common objective and subjective possibilities for qualitative improvement of the workforce in accordance with the needs of the productive forces, the transition to another type of professional knowledge or the new branch of social production of one country or another country. It provides for the possibility of free movement of labor depending on the needs of production, organizational technology in the world labor market. Thus, labor mobility is a *necessaryprerequisite* for ensuring the proportionality between the objective elements of production in conditions of rapid and radical changes in its structure. It involves the flexibility and mobility of specialties and professions, the freedom of movement of labor owners in the international labor market, and therefore is an important indicator that characterizes the possibility of the inclusion of workers in the process of international production. The level and structure of unemployment, employment and so on depend on the extent to which labor is mobile (Fomishyn, 2011).

The process of moving workers to the international labor market is a complex dynamic set of different elements, types and types of movement, characterized by close interaction and simultaneously - a high degree of independence. Traditionally, these are the main types of labor mobility (Fomishyn, 2011): *sectoral mobility* - characterizes the presence of the employee the necessary capabilities to transition from one industry of international production to another; *professional mobility* - a qualitative development of the worker to a level that allows him to move from performing certain specific production functions to others, and thus change the specialty, type of occupation or profession; *qualification mobility* - reflects the availability of opportunities for the employee to move to the ladder, and the territorial - to move freely on the scale of the world economy.

At the same time, the international labor market puts forward a set of requirements for population mobility: professional qualifications; quantitative quotation; temporary restrictions, prohibitions; programs of stimulation of remigration; immigrant vocational training programs; economic regulation; programs of economic assistance to countries of mass emigration, etc.

Taking into account the foregoing, it can be argued that the *international labor market* is a system of relations that arise between states regarding the supply-demand for labor in the world economic space, the central element of which is labor migration as a consequence of differences in the conditions of territorial division and reproduction of labor, as a result of which inter-country flows of labor become global.

At the same time, *the supply of labor* in the international labor market is conditioned by: the scale of labor migration of the population; the share made by the able-bodied population in the total number of migrants; qualification of workers, quality and productivity of their work.

Thus, the *international labor market* is the sphere of exchange, sale and purchase of labor, the nature of which is largely determined by the interests of the world economy, and which determine the conditions of employment of the international labor force, the size of payment and the nature of labor, which is in demand in the labor market.

That is, it can be argued that the *international labor market* is a complex social mechanism that covers various spheres of life of people, social groups and classes, society as a whole. In this case, as part of the international labor force you can always identify the most significant, its basic segments. These are, first of all, those categories of workers who have a permanent job in inter-country economic entities, as well as those who, by entering into migration flows, essentially serve as a reserve for the international labor market, or they are engaged in seeking work in the international labor market and national labor markets of different countries. Historically, in the countries, taking into account the specifics of their own economy, there were certain differences in the formation of labor markets, which are related to the degree of state intervention, the functioning of trade unions, hiring, training of personnel, etc. Typically, the most common labor market models are liberal (USA, Canada, Australia), social democratic (Sweden, Austria, Germany), conservative (paternalistic) (Japan) and transitional (post-Soviet countries) (Table 6). Among the presented models, the liberal model is recognized as the most dynamic and, accordingly, most adapted to the modern stage of economic development.

Other researchers highlight the European, Anglo-Saxon and Chinese models of labor markets that reflect the nature of social and labor relations in different countries of the world. For the *European (continental) model* is characterized by a high level of legal protection of the employee, strict labor law, focused on the preservation of jobs, regional and sectoral regulation of the level of remuneration and its differentiation. The *Anglo-Saxon model* is characterized by employer's freedom in hiring and dismissal, the benefits of collective-contractual regulation at the enterprise and firm level, contributing to dynamic changes in the labor market, responsive responsiveness to the need to change the number of jobs. The *Chinese model* combines strict regulation of labor relations in the public sector with a lack of legal regulation in the private sector. These models largely reflect the situation in the labor market in different regions of the world, and their differences determine the size and legality of migration processes (Patyka, 2013).

Table 6.Characteristics of labor market models

Signs	***Liberal***	***Social-Democratic***	***Conservative (paternalistic)***	***Transitional***
Territorial mobility	High	High	Low	Average
Unemployment rate	High	Low	Low	High
Guaranteed employment	Insignificant	Significant	Significant, lifelong hiring	Insignificant
The difference in wages	High	Low	Low	High
The presence of trade unions	Sectors small	Sectors small	Corporate, developed	Sectors are small
The nature of labor relations	Competition	Consensus	Paternalism	Conflict
State support	Support for the poor, but non-interference in processes at the microeconomic level. Decentralization	Active state-market warning of unemployment, income regulation	Passive employment policy	Insufficient interconnection of administrative and market methods of employment regulation
Certification training	Hiring of staff already trained in educational institutions and minimum expenses of the enterprise for industrial training. In-house language-language preparation only specific specialties	Identification of significant financial resources for enterprises for retraining and increasing the competitiveness of employees	Training and retraining in the company, the move is clearly in line with the plan	Educational institutions prepare specialists for all sectors of the economy. The enterprises have no training base.
Solving the problem of reducing labor demand	By post immediately before the release	By providing subsidies for the maintenance of non-competitive workers or providing them with jobs in the public sector	By reducing working time (transfer to conditions of part-time employment) or transfer by mutual consent to subsidiaries	At the expense of layoffs or by reducing working hours

Used as a *typology of labor markets*, depending on the intensity of labor and duration of unemployment (causes and remedies of unemployment allow us to understand the differences between different types of labor markets). In some cases, unemployment is characterized by a low level, but of high duration (Belgium, France, Germany, Denmark, Great Britain). In others, due to the large dynamics of the labor market, the average duration of unemployment is much lower, even at a rather high level of unemployment (Finland, Norway, Sweden). The most dynamic are the labor markets of the United States and Canada, which are characterized by high quantitative indicators of unemployment, short duration and average level (Mytsenko, 2013). At the same time, globalization, the internationalization of the labor market, the intensification of migration processes were factors that "erode" certain indigenous differences. Today we can say that the world is creating the preconditions for the formation of an integrated model of the labor market. Under the influence of these, as well as some other factors, certain general approaches to the regulation of labor markets are formed, which are taken from the experience of functioning of the most successful models (Mytsenko, 2013).

The International Labor Organization applies a geographic approach, distinguishing the following regional labor markets in the international labor market: developed countries and the European Union; Central and Eastern Europe and the CIS; East Asia; Southeast Asia and the Pacific; South Asia; Latin America and the Caribbean; North Africa; Sub-Saharan Africa.

Conclusions.

The modern stage of world economic development is characterized by a qualitative change in the opportunities and conditions for satisfying labor demand, which necessitates an in-depth study of the processes of formation and development of the international labor market. The corresponding study is all the more important that under the influence of globalization in the global economy, the transformation of the conditions of employment, the changing functions of the state in the context of labor resources of the national economy.

In the formation of the international labor market embodied such characteristic tendencies of contemporary development of human civilization as increased social orientation of the world economy, democratization of labor relations, internationalization requirements for the reproduction of labor power, the unification of living and working conditions of people in different parts of the world, the development and enhancement of the individual on the basis of universal values. The development of the international labor market is being realized in the growth of the scale and intensity of international migratory movements that are becoming more global in nature, attracting the population of the vast majority of countries around the world. Enhancing scientific and technological revolution, dramatic changes in the global political arena, structural changes in the international economy led to the emergence of new traits and characteristics of international migration, modification of patterns and trends. These changes relate to the directions of international migration flows, the volumes and geography of migratory movements, the professional qualifications of migrants, and their role in economic processes.

Thus, the international labor market - is a complex social mechanism that covers various areas of human activity, social groups and classes of society in general, which is formed in the process of internationalization of economic development on the optimal reallocation of labor in the global economy.

References.

Elova M., Muraveva, Panferova S. (2002). Mirovaya ekonomika: vvedenie vo vneshneekonomicheskuyu deyatelnost. M.: Logos [in Russian].

Figurnova N. (2005). Mezhdunarodnaya ekonomika. M.: Omega-L [in Ukrainian].

Fomishyn S. (2011). Mizhnarodna ekonomika. Lviv. [in Ukrainian].

Mytsenko I., Stezhko N. (2013). Mizhnarodna ekonomika. Kirovohrad [in Russian].

Patyka N., Martyniuk O., Kucherenko D. (2013). Mizhnarodni ekonomichni vidnosyny. K.: Tsentr uchbovoi literatury [in Russian].

Puryhina O.H., Sardak S. (2007). Mizhnarodna mihratsiia. K. [in Ukrainian].

Rymarenko Yu.I. (2007). Mizhnarodne mihratsiine pravo. K.: KNT [in Ukrainian].

Shahovskaya L. (ed). (2013). Mirovaya ekonomika i mezhdunarodnyie ekonomicheskie otnosheniya. M.: KNORUS [in Russian].

Nataliia Nalyvaiko
Associate Professor of the Economy Enterprise Department,
Ukrainian National Forestry University
orcid.org / 0000-0003-4310-9367
Olena Kolomiets
Engineer of the Economy Enterprise Department,
Ukrainian National Forestry University
orcid.org / 0000-0002-0400-4805
Sofiia Sukhoniak
Assistant of the Economy Enterprise Department,
Ukrainian National Forestry University,
Lviv, Ukraine
orcid.org / 0000-0002-4590-7656

THEORETICAL BASICS OF INNOVATION CLUSTERS AS LOCALIZED ECONOMIC SYSTEMS

Abstract*. The theoretical basics for the development of innovative clusters in terms of systematization of the scientific statements of their creation as localized economic platforms in the national innovation system were analyzed and summarized. The dominant characteristics of cluster integration, as well as a number of macroeconomic and microeconomic synergistic effects and factors of the clustering process were investigated. The prospects of the development of innovative clusters in the national economy are investigated. It has been established that the cluster model of economic development has spread with the intensification of competition and the globalization of international relations. It has been substantiated that the development of innovative clusters in the national economic space is aimed at reducing transaction costs, increasing the efficiency of using knowledge, creating new integration networks and possible cooperation. Clusters have been found to promote investment, since their structural features of development are well combined with the characteristics of modern innovation processes. In order to increase the competitiveness of innovative cluster structures, the possible macroeconomic and microeconomic effects for the national economy are systematized.*

JEL Classification M3, M21, M29.

Introduction.

In the conditions of global rivalry and transnationalization of economic growth factors, as well as taking into account the progressive experience of developed countries in creating and supporting the integration of localized groups of companies, increasing the competitive position of Ukraine and its regions as individual players in the international arena is determined by the initiative of local, regional and national authorities in the creation of favorable prerequisites and the direction of socio-economic policy on the formation of innovative clusters on economic subjects . That is, in today's conditions of globalization and transnationalization of economic processes, clustering is an effective form of internal and intraregional integration or cooperation, which makes it possible to ensure the development of the national economy based on the creation of independent localized players who, in particular, are able to compete on an international platform.

1. Research analysis of scientific literature.

The need to study the spatial organization of innovative business and innovation clusters as localized economic systems in the national economy, including in the spatial-network aspect, it is caused, first of all, by changes in the global economy under the influence of globalization challenges that simultaneously determine the universalization of markets and the introduction of international organization of production processes. According to K. Kurle and B. Pecker, "in this situation, the world economy can no longer be analyzed as an interactive game of national economies. It introduces new management modalities within multinational enterprises that use new spatial strategies that shake a traditional territorial organization "(Menzel, Fornahl, 2007). The influence of globalization processes on social relations has led to the emergence of new methodological approaches to economic and social research. British scholars J. Clarke (Porter, 1998)., D Boyle (Karlsson, Mellander, Paulsson, 2003), J. Diamond (National Innovation Systems, 1997), who considered localism as a factor of global economic development with significant advantages in the context of the spatial effect of hyperconcentration of innovation and investment. Within the framework of the national economy, issues of spatial development are widely highlighted in the works of E. Dachman, R. Cantillon, D. Stewart, A. Smith, J. Thünen, St. Launhardt, M. Weber, V. Kristaller, A. Lesch, V. Isard, F. Perroux, P. Potje, J. Budville, H. Lasuen, E. Limer, M. Porter, S. Rosenfeld, D. Sollier , I. Tolenado, E.J. Fezer, V. Feldman, M. Enright, F. Cook, K. Ketels, P. Maskell, which contained the search for a solution to a significant problem of optimizing the economic space organization model based on the cluster approach. M.I. Dolishniy, S.I. Doroguntsov, A.O. Epifanova, M.I. Melnik, I. Z. Storonyanska, V.I. Chuzhikov, L.T. Shevchuk, S.L.Schultz and others were engaged in the scientific substantiation of the models of spatial development of territorial-social systems caused by the activation of processes of interregional integration, the search for effective mechanisms for implementing spatial and national policies.

The methodological essence of modern localism is in the defining a new spatial-temporal platform for the development of global innovation and investment processes, which implies their hyperconcentration in certain microregions of the global economic space. They significantly differ in their structural basis, in which the most important place is occupied by creative spheres, as well as harmonized living standards and business conditions (Final Report of the Expert Group on Enterprise Clusters and Networks, 2003).

According to the model of creating a network society M. Castells (Kolomiets, 2016), new economic forms are built around global network structures of capital, management and information, and the ability to access technological skills and knowledge through such networks is currently the basis of productivity and competitiveness. Companies, firms and other organizations and institutions are united in networks of various configurations, the structure of which marks a departure from the traditional differences between large corporations and small businesses, including sectors and economic groups, organized on a geographical basis.

That's why, work processes get more individualized nature, there is a fragmentation of activity depending on its production tasks and its subsequent reintegration to obtain the final result. This is manifested in the implementation of interrelated tasks in different parts of the world, which makes a new division of labor, based on the capabilities and abilities of each employee, and not on the nature of the organization of this task (Kolomiets, 2008). This is a significant premise for the formation of a new economy, which is characterized by the internationalization of production, the localization of multinational corporations and, accordingly, international production networks with the benefits of innovation and decentralized concentration. At the same time, the strengthening of the role of local bodies of power, that is, the influence of territorial authorities, particularly, local self-government, is primarily due to the fact that "the key of the development is hidden directly in the local economic integration of enterprises among themselves and in organizing effective resource systems around them, they are provided and allowed to develop. " In the light of a new concept of public policy that prefers "network culture" rather than individual enterprises, "territory becomes a place of management, important from the point of view of" supporting "enterprises in the framework of a continuous process of change and reorganization" (Menzel, Dirk Fornahl, 2007). The goal of the local authorities is expanding by their access to the international level in matters of cooperation and integration between the territories.

The process of localizing the activities of the subjects of the national economy is a key premise for the process of creating resources not only for territorial, but also for national development as a whole, that's why , a localized economic system is the "special productive system localized in a territory that usually corresponds to the area within which people can find work without moving out. This system functions as a network of interrelated productive units (production or service enterprises, research centers, educational organizations, innovation transfer centers) engaged in similar or complementary activities and between which the division of labour is carried out "(Dahlman, 1979). Varieties of localized economic systems can be (Rosińska, 2005): districts, technopolises, subcontracting systems, specific types of activities oriented to the world market, metropolitan service systems, and agroindustrial systems. And of course, innovation clusters act as a localized economic system in the national economic space.The famous Italian scientist J. Garofoli highlighted a list of variables that allow to characterize that localized economic system (production system) (Rohrbeck, 2011): 1) the economic structure and organization of production (level of specialization / diversification of the local economy, size of enterprises, presence or absence of local production relations between firms); 2) the development of the technological system (methods of introduction and diffusion of innovations); 3) labor market and industrial relations (structure of employment, origin of workers, vocational training); 4) social actors and social structure (reproduction of skills and entrepreneurial resources, culture and management standards); 5) structure of market and forms of competition (options of the market entry, market forms) ; 6) information system; 7) regulatory institutions.

2. Research results.

Prospects for the development of innovative clusters as localized economic systems lie in the plane of applying the global approach to management, which originates, firstly, from the need for unconditional recognition of the fact that actors and social relations at the local level are of critical importance for socio-economic progress and peace and this significance is no longer limited by location. This is evidenced by the ever-more increasing, sometimes even unexpectedly, their ability to interact and influence top-level actors on a global scale. In other words, it is impossible to achieve serious success in the sustainable development of an organization if an adequate degree of stability is not achieved at all levels, from local to global (Garncarczyk, 2004).

At the national level, global management is intended, inter alia, to provide orientation for investment, structural and regional policies on demand and market needs, on domestic and non-domestic customers' requests and on the organization of manufacturing of such products that are in demand on the international market and can contribute to increasing financial autonomy, as well as individual regions and the national economy as a whole; assessment of the final result and efficiency depending on the degree of compliance with the level of economic development and the level of vital activity of the population (social standards, budget security, the structure of incomes and expenditures of families, ecology, demographic situation, environmental security, etc.).

The main advantages of the development of localized economic systems in the network-spatial context are: the formation of competitive advantages of certain territories and the country as a whole; localization of multinational corporations; development of innovation clusters based on the internationalization of economic relations and connection to global innovation systems with high mobility; activation of knowledge and communication; the possibilities of institutional, market and structural transformations as factors of investment attractiveness.

Just about clusters it is mentioned in the network concept of the “industrial complex” by V. Ruijgrock and R. van Tulder. They distinguish six groups of players whose connections within the network are of a long-term nature: a focal enterprise (“root firm” - core firm); supplier firms, including service providers; sales and trading companies; representation of workers (trade unions); capital investors; political institutions and local administrations that form the external environment of the firms that form the cluster. Speaking of “industrial complexes”, scientists characterize them as “a specific type of network”, as “a negotiation configuration (bargaining configuration) organized around a base firm consisting of groups of agents that are directly or indirectly involved in the production and promotion of a certain product” (Dahlman, 1979).

The great contribution to the development of the cluster approach of the organization of firms is presented in the works of M. Porter, who saw the need to consider the country's competitiveness through the prism of the international competitiveness of clusters as

associations of firms from various industries, and the ability of these clusters was evaluated by the efficiency of using internal resources (Porter, 1990). While explaining the relationship between the degree of development of clusters and the competitiveness of a region or country, M. Porter defined clusters as "groups of geographically close interconnected companies and related organizations of a certain sphere characterized by common activities and which mutually complement each other" (Porter, 1998).

The application of cluster approach involves the formation of certain localized clusters of enterprises performing various functions, but united by a single technological process, the result of which is the final product created by the efforts of all participants of the process, starting with those involved in scientific development and training, and ending with technologists, packers and dealer network. This approach is based on taking into account the positive synergistic effects of agglomeration, the network principles of the organization of the business process and the diffusion of knowledge and skills through staff migration. In addition, there are no boundaries between sectors and activities, which, in turn, are considered as interrelated and mutually reinforcing.

In his works M. Porter (Porter, 1990) highlights the following advantages of clusters: they increase the productivity of enterprises in the area where they are created due to better access to the workforce and suppliers, specialized information, institutions and public goods; the subsidiatory of products that, as a result, become more attractive to consumers; better leadership motivation;they increase the rate of innovation and determine their direction, therefore, they create a foundation for future economic growth through a better understanding of the market, the ability to introduce rapid changes and flexibility, the pressure of competitors and other producers of the cluster;they stimulate the creation of new enterprises (that contributes to the increasing and strengthening of the cluster) thanks to the availability of the necessary raw materials, components and labour, the creation of a new business as part of a positive feedback chain.

Meanwhile, M. Porter noted the following basic properties of clusters:geographic localization - the organizations included in the cluster are compactly located on a certain territory, and territorial affiliation in the conditions of growing globalization is often one of the competitive advantages; interconnection between enterprises - a cluster is a special form of a network of interconnected enterprises, and a deeper development of relations indicates the degree of development of the cluster itself; technological interconnection of industries - in the cluster there are enterprises of various industries that are technologically interconnected (companies that produce finished products; suppliers of specialized factors of production, components, machines, as well as services, financial institutions; firms that ensure the movement of products through distribution channels; manufacturers related products, etc.); critical mass - in order to have a tangible impact on the competitiveness of cluster companies, it is necessary to have a significant number of interaction participants.

That is, the M.Porter's cluster is defined as a group of geographically localized interconnected companies, suppliers of equipment, components, specialized services, infrastructure, scientific research institutes, universities and other organizations that complement each other and strengthen the competitive advantages of individual companies and the cluster as a whole. Anyway, the cluster model of economic development has spread with the increasing of competition and the globalization of international relations. Globalization has influenced the strengthening of the role of cluster models in the economies of countries as a whole. The term “cluster” began to be used as early as the 1970s by Swedish business economists and geographers K. Frederickson and L. Lindmark, who devoted considerable efforts to the study of local industrial specialization, spatial economic agglomeration and regional development and identification of economically, socially and institutionally related processes .

Great contribution to the formation of the theoretical basis of the development of clusters in the late XIX century was done by A. Marshall. The scientist stood on the position that a necessary condition for the formation of a cluster is the presence of a constant network of interactions between economic entities, which contributes to their competitiveness. While conducting researches of industrial agglomerations (districts, clusters), the scientist was one of the first to prove the presence of positive effects (externalities) for cohesive enterprises engaged in similar (related) economic activities, namely, by pooling specialists' resources, access to various highly specialized suppliers of products and services, fast exchange of information. A. Marshall noted (Monitoring the digital divide and beyond, 2003) that combining small and medium enterprises with their concentration in one region (cluster) of a country and specialization at a certain stage of a single production process will be no less effective than large enterprises.

That is to say, an alternative to the development of large vertically integrated enterprises which use domestic economy on the scale of production is to concentrate small and medium enterprises in one place, due to the “external economy on the scale of manufacturing” they are no less competitive than large companies. One of A. Marshall's significant contributions to the development of the cluster concept is the disclosure of the concept of synergistic effect of closely located enterprises, which is achieved through such factors as unhindered access to suppliers, the exchange of knowledge and experience, innovations between enterprises, and the availability of skilled workers owned specific knowledge in a particular area. That is, according to the theory of industrial areas (clusters) of Marshall, the competitiveness of individual industrial sectors is determined by the level of their local clustering, and the level of industrial specialization determines the development of local and national economies in general.

According to the theory of economic development of M. Feldman and D. Odretch, the basis for economic growth is the process of creating innovative clusters, thanks to which “flows and external effects of knowledge having the property of geographic concentration and the firm’s ability to absorb them” are formed (Final Report of the Expert Group on

Enterprise Clusters and Networks, 2003), namely, their work marks the geographic localization of innovation activity. Charlie Karlsson, a professor at the Jönköping International Business School, is the dominant characteristic of the innovation cluster that determined the knowledge and external effects that arise through its distribution. And therefore, the decisive role in innovation clusters belongs to the absorption capacity of enterprises to assimilate and process this knowledge (The Venture Capital and Private Equity Country Attractiveness Index, 2010). Besides, the Swedish economists Charlie Karlsson, along with Charlotte Melander and Thomas Paulson, developed a three-dimensional dynamic classification model for innovation clusters, which determines the analysis of the dynamics of transformation in the content of an enterprise cluster (The Venture Capital and Private Equity Country Attractiveness Index 2010).

Specialists of the European Commission on the study of conditions for the development of small and medium-sized businesses in the study of cluster typing with the participation of Professor M. Storper has created a scheme for the development of an “ideal” local cluster that includes six stages: 1) the formation of pioneer firms based on local specific production skills, "spin-off" process; 2) the creation of a supplier system and a specialized labor market; 3) the formation of new organizations (often governmental) to support firms; 4) the attraction of external domestic, then foreign firms to the cluster, a highly skilled workforce as incentives for the organization of new cluster firms; 5) the creation of implicit assets (knowledge) between firms that will stimulate the diffusion of innovation, information and knowledge; 6) a possible period of cluster decline thanks to the exhaustion of its innovative potential and closeness for external innovations (Rohrbeck, 2011).

American scientists G. Beckel and R. Jackson, summarizing the conceptual basis of the cluster approach for organizing economic activity, identified a number of theoretical cluster formation constructs: classical agglomeration theory (Classical Agglomeration Theory), new economic geography (New Special Geography), school of flexible specialization (Flexible Specialization School), regional innovation systems (Regional innovation system) , competitiveness (Competitiveness), dynamic externalities (Dynamic Externalities). Chinese scientist Ke Chen in his work “Analysis of Biotechnological Clusters in Urban Agglomerations of the USA” set three approaches apart to the formation of a cluster concept: industrial clusters based on localization principles according to the views of Marshall and his followers; industrial clusters based on interdisciplinary relations; industrial clusters based on the theoretical views of M. Porter and the economy of localization and urbanization, value chain, technological innovation (Porter, 1998).

Chinese scientist Ke Chen in his work “Analysis of Biotechnological Clusters in Urban Agglomerations of the USA” set three approaches apart to the formation of a cluster concept: industrial clusters based on localization principles according to the views of Marshall and his followers; industrial clusters based on interdisciplinary relations; industrial clusters based on the theoretical views of M. Porter and the economy of localization and urbanization, value chain, technological innovation (Porter, 1998).

Anyway, the development of clusters in the national economic space is aimed at reducing transaction costs, increasing the efficiency of knowledge utilization, and creating new networks for integration and cooperation. The mixed contract nature of the cluster as a strategic network enables enterprises that are part of it to coordinate a significant part of their activities through market mechanisms, while taking advantage of hierarchical coordination, namely market incentives for cluster members, such as options, bonuses and others. The presence of these competitive preferences and incentives encourages enterprises to greater "mobility, diligence and risk" (Monitoring the Digital Divide and Beyond, 2003), while having the opportunity to share explicit and implicit knowledge, update technologies, access to a wide range of new technical resources, attract high quality staff. And actually, small enterprises are more mobile and flexible to intensify these innovative processes, compared with large transnational corporations or traditional large enterprises that operate within the same industry market. The importance of clusters in the innovation and technological development of the national economy was also highlighted by French scientists back in the 70s of the last century, who conducted research of the technological development of various industries and explained the interdependence between the level of technological effectiveness of one sector and another. The term "fileuses" is widely used to describe groups of technologically interconnected sectors in France (Porter, 1990). That is, it was about the organizational forms of integration (interaction), which actually showed signs of innovation clusters. But the term "innovation clusters" itself became widespread among the leading players in the public and private sector after the emergence of a project for the development of innovation clusters in the United States called "Clusters of Innovation". This concept reveals competitive advantages and the need for cluster integration of enterprises and organizations not only from the point of view of reducing transaction costs, opportunities for increasing labor productivity in conditions of tough competition in the market, but also taking into account the increase in their innovative potential and ability to innovate.

While studying innovation clusters in Silicon Valley, Professor at the University of California, Anna Lee Saxenian notes that the phenomenon of these cluster entities is not only a high contribution of specialists responsible for innovation, but also the result of free communication between individuals, facilitating the transfer of new knowledge between firms and industries. An example is the successfully organized communication and cooperation of regional institutions, in particular, Stanford University, trade associations, local consumer organizations, as well as a number of consulting, marketing, PR firms and venture companies (Monitoring the Digital Divide and beyond, 2003).

Clusters have proven particularly useful for stimulating innovation, since their structural features and development logic are well combined with the characteristics of modern innovation processes. The modern model presupposes the achievement of an applied result with the help of numerous non-linear interactions of various companies, universities, scientific research institutions and public organizations, and this is how clusters have been working since their inception.

Meanwhile, the effects of cluster interaction and potential development opportunities for all stakeholders are underestimated by both government managers and companies' management. Scandinavian researchers B. Asheim and A. Isaksen identified the main determinants of increasing state competitiveness - this is training as a process and knowledge as the main resource. Innovations, the production of new knowledge are the main driving force of the formation of a competitive economy, and innovative clusters are a tool to increase its competitive potential. The outstanding English scientist F. McKen and economist S. Shepard in their research, based on classical and neoclassical theories of localization, emphasized the need to take into account the organizational structure of individual companies and the conditions of cooperation of firms in the cluster, as well as the nature of changes in spatial transaction costs within the cluster.

During recent decades, there has been a clear trend towards strengthening the influence of the information and communication technology sector on the dynamics of the socio-economic development of most countries of the world. In modern conditions of rapid development of the global information infrastructure, exactly information and communication technologies play a key role in the growth of the socio-economic and business environment of any country, have a positive effect on the rapid establishment of links in the sphere of trade, finance, transport, and contribute to the intensification of cooperation between themselves and influential international organizations. Information and communication technologies provide even the least developed countries with a wide range of opportunities to transform their economic systems into information and high-tech ones that can compete with developed economies on the world market (Monitoring the Digital Divide and beyond, 2003). Nowadays, Ukraine, as one of the most promising high-tech and innovation markets in Central and Eastern Europe, is in the process of integrating Ukrainian markets with EU countries, receives a powerful incentive to develop actively its own IT sector in the most developed and largest innovation segment economy in Ukraine.

Innovative development of the national economy and ensuring its competitiveness in conditions of globalization challenges, among other things, is determined by the level of development of innovative clusters, the effective functioning of which will allow not only to realize and enhance the intellectual potential and competitive educational complex, but also to overcome the backlog in technological development of regions and individual territories based on cooperation of science and business, the development of high-tech sectors and manufacturing, attracting venture capital investments, the formation of an innovative space for regional economic development. Innovative clusters are an integrated association of companies for the implementation of all stages of the innovation process, starting with the idea of a new product to its actual production and sale to ensure a high level of competitiveness, because vertical and horizontal integration creates favorable conditions for enhancing information exchange processes, the occurrence and promotion of new technologies and management innovations. The advantages of forming innovation clusters as the core of a national innovation ecosystem are the following aspects of stimulating economic development (Kuz`min, Zhezhuxa, 2010):

- innovation clusters are based on a sustainable system for the distribution of new technologies, knowledge, products (information technology network), which is based on a joint scientific base, design and information institutions, which allow to manufacture products and provide services according the world standards, expand product markets;

- association of basic innovations in a certain period of time and in a certain economic space and establishment on this basis a system for transferring new knowledge and technologies; the possibility of using various sources of technological knowledge and connections; accelerating the spread of the "total innovation product" through a network of interconnections in the regional and national economic space;

- cluster enterprises have additional competitive advantages through the ability to implement internal specialization and standardization, attract financial resources into manufacturing and minimize the cost of innovation by combining the joint financial resources of enterprises in the cluster; through attracting investments from joint participation in investment programs; by participating in competitive projects funded in the form of grants; by combining financial capabilities to provide guarantees for obtaining credit resources;

- association of the efforts of the components of the production process - from suppliers of raw materials to consumers of the final product, including the service sector and specialized infrastructure, as well as ensuring continuous production load contributes to the competitiveness of products of cluster enterprises;

- when consolidating enterprises into clusters, the possibility of access to information resources and the exchange of information on various aspects of the activities of enterprises of relevant industries increases; as well as an access to marketing, legal, consulting services;

- a significant feature of this type of clusters is the presence in their structure of flexible business structures -small enterprises that allow the formation of innovative growth points of the local and national economy;

- indicated clusters are extremely important for the development of small businesses: they contribute to the creation of new enterprises, provide small firms with a high degree of specialization in servicing a specific entrepreneurial niche, as this facilitates access to the capital of an industrial enterprise, and also actively exchanges ideas and transfers knowledge from scientific to entrepreneurs, in turn, leads to an increase and strengthening of the cluster itself, the growth of its competitiveness in the domestic and global markets;

- innovative clusters contribute to the development of regional and national economies, namely, improvement of the trade balance of the country (region), increase of employment, raise of the level of product quality, increase of allocations to the budget, etc. on the basis of increasing the degree of utilization of available capacities, increasing the possibilities of attracting investments, especially venture capital, increasing the rate of innovation development, increasing the productivity of enterprises through better access to highly skilled labor, specialized information, better motivation of managers and workers, expanding access to markets and reaching foreign markets, specialized suppliers, technological knowledge; that is, the appearance of a synergistic effect of growth (including due to the effect of scale).

The improvement of the competitiveness of innovative cluster structures and the effective usage of the integrated benefits of coordinating interests and business when implementing their development strategies are determined by macroeconomic and microeconomic synergistic cluster effects (Fig. 1).

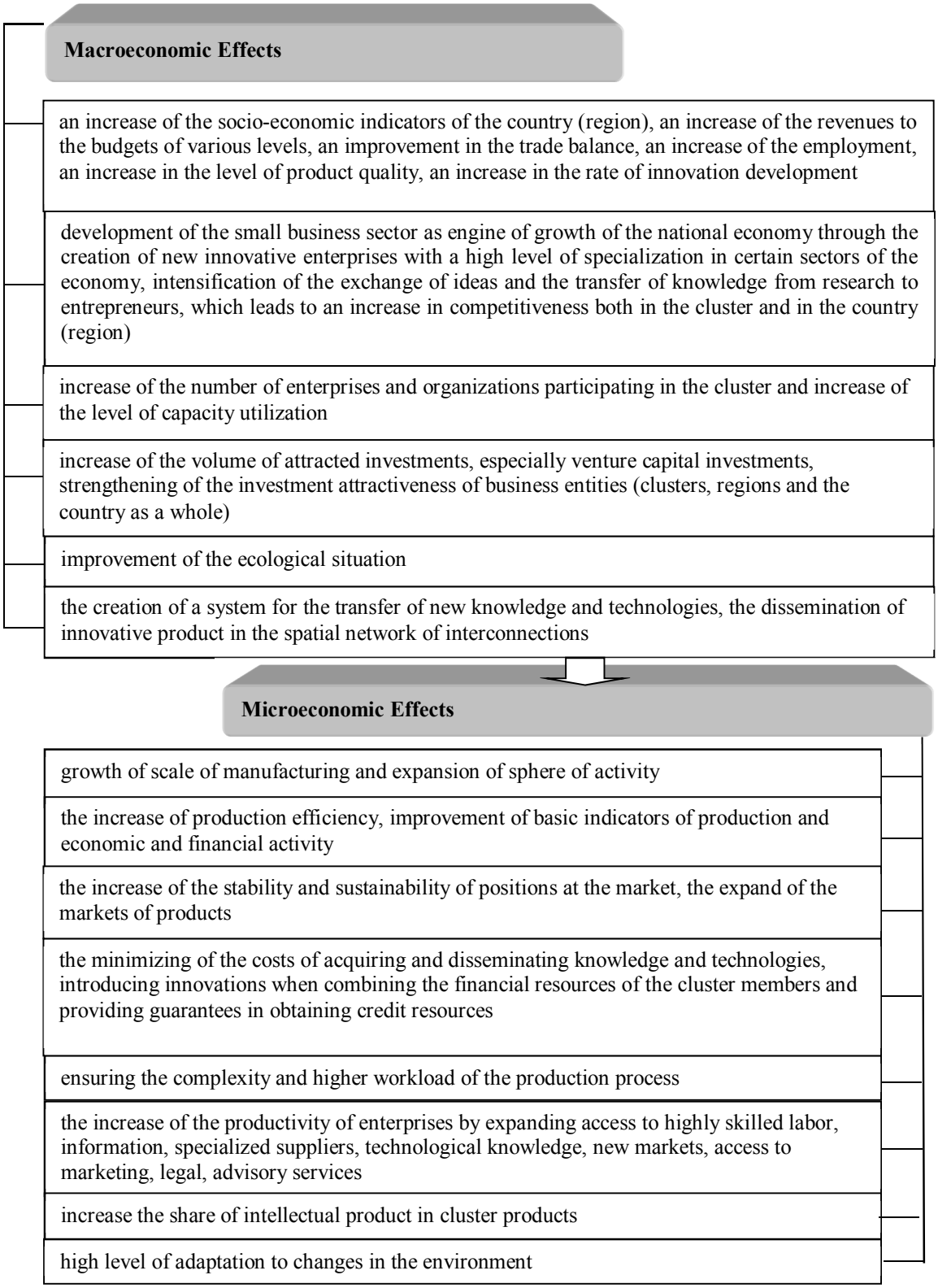


Fig. 1. The combination of macro- and microeconomic cluster effects for the national economy (authoring)

Stimulation of innovative enterprises is carried out by many countries in various forms: in the form of direct financing, the provision of loans, targeted grants for scientific research and development, creation of innovation funds, reduction of fees, postponement of their payment or exemption from them, free patenting services, etc. .Over the last 20-25 years, a number of countries have gained experience in successfully stimulating innovation development in the framework of cluster industrial systems (Scandinavian countries, Italy, Germany, France, Australia, Japan, South Korea, Singapore, Brazil, Slovenia, Canada, etc.). In the modern literature on innovations and methods of their introduction into manufacturing , the prominent role of clusters for consolidation of technological linkages between industries is widely recognized. National cluster development assistance programs (Cohesion Policy and Framework Programe) are components of the innovation policy of the EU regions, which allows to combine the process of generating and sharing knowledge, facilitating the process of knowledge transfer between universities, companies and innovative structures that unite in clusters.

The main achievements of this policy are:

-creation of IRE working groups in the following areas: “Effective Systems of Regional Innovations”, “Technology Transfer Between Universities and Enterprises”, “Regional Clusters and Networks as an Engine of Innovation”, which allows covering all elements of the cluster functioning system and contributes to their versatile analysis;

- the development by the European Commission of a business development plan based on researches of the activities of individual enterprises and industries;

-creation of the Center for Research and Competences, focused on conducting research and testing the market in a cluster environment;

-the creation of the European research space, which has become a link between the academic environment and industry.

Conclusion.

So, the development of innovation clusters as localized economic systems serves as the basis for the formation of a kind of integrated form of innovation - the cumulative innovation product. Consolidation into innovation clusters ensures the efficiency and orderliness of the process of concentrating diverse scientific and technological inventions, the formation of a stable system for the distribution of new knowledge and technologies, and the spread of an innovative product in a spatial network of interconnections. Particularly the formation of a system of permanent relationships between all cluster members acts as a catalyst to enhance the exchange of ideas and the transfer of knowledge, the transformation of inventions into innovations, and innovations into competitive advantages, which leads to an increase in competitiveness of both the cluster and the country as a whole.

References.

Dahlman, Carl J. (1979). The Problem of Externality. *The Journal of Law and Economics*, Vol. 22, 146–148.

Dunnig, J.H. (1993). The globalization of business: the challenge of the 1990 s. New York, N.Y.: Routledge.

Final Report of the Expert Group on Enterprise Clusters and Networks. (2003). Brussels: European Commission.

Garncarczyk, M., (2004). Efekty sieci a zarządzanie innowacjami w klastrach. Organizacja i kierowanie,4, 68-74.

Karlsson, C., Mellander, C., & Paulsson, T. (2003). Spatial ICT Clusters in Sweden – An Empirical Method to Identify a Necessary Condition for Existence: [draft]. Sweden: Jönköping International Business School, Jönköping University

Kolomiets, O.G. (2016). Innovative development of spatial organization of business activity in the context of metropolisation. Stan ta perspektyvy rozvytku finansiv, obliku ta pidpryemnycztva v umovax transformaciyi ekonomiky, 8-9 lypnya 2016. Kyiv.

Kolomiets, O.G. (2008). Ekonomichni osnovy upravlinnya investuvannyam v potochnu diyalnist pidpryyemstva. Socialno-ekonomichni naslidky ta strategiya reformuvannya ekonomiky Ukrayiny, 15 kvitnya 2008. Lviv: LCA.

Krykavskyj, Ye. (2005). Logistychne upravlinnya: pidruchnyk. Lviv.

Kuz`min, O. & Zhezhuxa, V. (2010). Klastery yak chynnyk innovacijnogo rozvytku pidpryyemstv i terytorialnyx utvoren. Economy of Ukraine, 2,14-23.

Lammer-Gamp, T., Meier zu Kocker, G. & Alslev Christensen, T. (2011). Benchmarking Insights from Cluster Management Organizations and Cluster Programs. Retrieved from: ttp://www.clustercollaboration.eu

Menzel, M.-P., & Dirk Fornahl. (2007). Cluster life cycles: dimensions and rationales of cluster development. Germany.

Monitoring the digital divide and beyond. (2003). Retrieved from: http://www.orbicom.ca/projects/ddi2002/2003ddpdfen.pdf.

National Innovation Systems. (1997). Paris: OECD.

Porter, M. (1998). Clusters and Competition: New Agenda for Companies, Governments and Institutions. Retrieved from: http://citeseerx.ist.psu.edu.

Porter M. (1998). On Competition. Boston: Harvard Business School.

Porter, M. (1990). The Competitive Advantage of Nations / Republished with a new introduction. New York, NY: Free Press.

The Venture Capital and Private Equity Country Attractiveness Index (2010). Retrieved from: http://blog.iese.edu/vcpeindex/ranking/

Rohrbeck, R. (2011). Corporate Foresight: Towards a Maturity Model for the Future Orientation of a Firm. Verlag Heidelberg.

Rosińska, M. (2005). Sieci biznesowe jako forma integracji celu optymalizacji warunków działania na rynku globalnym – ujęcie teoretyczne. Poznań: E.Najlepszy.

Olga Ostapenko
Candidate of Engineering Sciences, Ph.D, Associate Professor,
Associate Professor of the Department of Heat Power Engineering,
Vinnytsia National Technical University,
Vinnytsia, Ukraine
orcid.org/ 0000-0001-9682-9419

ANALYSIS OF ENERGY, ECOLOGICAL AND ECONOMIC EFFICIENCY OF STEAM COMPRESSOR HEAT PUMP INSTALLATIONS, AS COMPARED WITH ALTERNATIVE SOURCES OF HEAT SUPPLY, WITH ACCOUNTING THE CONCEPT OF SUSTAINABLE DEVELOPMENT

Abstract. *The investigation presents the approach, aimed at increasing of the energy efficiency, ecological and economic efficiency of the sources of heat supply with application of heat pump installations (HPI), with taking into account the concept of sustainable development. In our study three aspects of sustainable development were considered: economic, environmental and social. Our research aimed at determination of energy and ecological advantages and economic preconditions of usage of steam compressor heat pump installations with different sources of low-temperature heat and with different types of drive HPI for operation in heat supply systems; evaluation of energy, ecological and economic efficiency of HPI as compared with alternative sources of heat supply, with accounting the concept of sustainable development. Energy, ecological and economic efficiency of steam compressor HPI with different types of drive HPI and various sources of low-temperature heat (surface and ground waters, recycling water of circulating water supply system, geothermal waters, air, industrial heat emissions, sewage waters and heat of the soil) for heat supply systems in comparison with alternative sources of heat supply has been analyzed. The indexes of energy, ecological and economic efficiency evaluation of steam compressor HPI are substantiated, that aimed to the determination of energy effective, economic reasonable and ecologically safe operation of the sources of heat supply, based on the HPI with various sources of low-temperature heat and sources of drive energy of HPI. Values of annual saving of equivalent fuel are determined, reduction of CO2 emissions, cost saving on fuel-energy resources and on emissions for 1 MW HPI with various types of drive, using the heat of different low-temperature sources are evaluated.*

JEL Classification: Q47, Q55, Q57

Introduction.

According to (Emas, 2015), the concept of sustainable development aims to maintain economic advancement and progress while protecting the long-term value of the environment. During last decades problems of energy efficiency increase of energy generation numerous studies in branch editions in the world and in Ukraine were published (Brych and Fedirko, 2018; Draganov and Mishchenko, 2006; Emas, 2015; Klarin, 2018; Ostapenko, 2015, 2016, 2017, 2018, 2019; Ostapenko, Bakum and Yuschishina, 2013; Ostapenko and Kolos, 2010; Ostapenko, Leshchenko and Tikhonenko, 2014, 2015; Ostapenko and Portnov, 2018; Ostapenko, Portnov and Voloshyn, 2017; Ostapenko, Portnov and Forsiuk, 2018; Ostapenko, Shevchenko and Bakum, 2013; Ostapenko and Slobodianiuk, 2014; Ostapenko, Valigura and Kovalenko, 2013; Tkachenko and Ostapenko, 2009). The article (Brych and Fedirko, 2018) presents the theoretical approaches to increasing the energy efficiency of municipal heat power engineering with taking into account the concept of sustainable development.

As it is noted in (Brych and Fedirko, 2018), three aspects of sustainable development should be considered: economic, environmental and social aspects. Therefore, in order to increase the efficiency of heat power engineering, it is necessary to identify and implement a number of measures. They should ensure the needs of services and goods at the lowest economic and social costs for the required energy and protection of the natural environment in harmony with sustainable development at all levels of the state, as it is noted in (Brych and Fedirko, 2018). The article (Brych and Fedirko, 2018) aims to study and generalize the domestic and international experience of the municipal heating systems and the development of measures to improve their energy efficiency on the basis of sustainable development of the industry. In (Brych and Fedirko, 2018) such concepts as "sustainable development", "sustainable development of energy", "sustainable development of enterprises" have been determined. The choice of indicators which should be taken into account when implementing the policy of reducing the use of heat and power engineering, such as the specific value of the consumption of fuel and energy resources for the production of a unit of production for any purpose, grounded in (Brych and Fedirko, 2018).

Nowadays it is very important for Ukraine to take into consideration main challenges, concerning the development of fuel and energy complex: critical state of energy resources base, outdated equipment and technologies of organic fuel mining, processing and burning, low level of energy efficiency and ecological safety of energy production, shortage of domestic fuel and energy resources, high cost of imported energy resources, grows of ecological requirements. Realizing of objective character of these challenges, a number of urgent measures, realization of which enables to solve the problem of provision of high level of energy efficiency and ecological safety of energy production and energy usage are to be developed.

Further considerable increase of natural gas price in Ukraine and growth of tariffs for heat energy stipulate the search of new highly efficient sources of heat supply. Usage of heat pump installations (HPI) in the systems of heat supply will provide the economy of fuel and protection of the environment as a result of reduction thermal pollution and amount of harmful emissions of combustion products, according to (Ostapenko, 2015, 2016, 2017, 2018, 2019; Ostapenko, Bakum and Yuschishina, 2013; Ostapenko, Leshchenko and Tikhonenko, 2014, 2015; Ostapenko and Portnov, 2018; Ostapenko, Portnov and Forsiuk, 2018; Ostapenko, Shevchenko and Bakum, 2013; Ostapenko and Slobodianiuk, 2014; Ostapenko, Valigura and Kovalenko, 2013; Tkachenko and Ostapenko, 2009).

1. Study of energy, ecological and economic efficiency of steam compressor heat pump installations as compared with alternative sources of heat supply

For determination of energy efficiency of usage of initial energy of the fuel and impact of certain type of heating on the environment, the Commission of Heat Pump of European Economic Community (EEC) in 1991 performed the analysis of heating systems, widely used in Europe. The results of the analysis (Draganov and Mishchenko, 2006; Ostapenko and Slobodianiuk, 2014) are shown in table 1.

As it is seen from the table 1, heat pumps provide high energy efficiency of initial energy and produce far less CO_2 emissions, as compared with alternative sources of energy supply. In recent years a number of researches, aimed at study the efficiency of heat pump installations usage in thermal schemes of energy supply sources were performed (Ostapenko, 2015, 2016, 2017, 2018, 2019; Ostapenko, Bakum and Yuschishina, 2013; Ostapenko and Kolos, 2010; Ostapenko, Leshchenko and Tikhonenko, 2014, 2015; Ostapenko and Portnov, 2018; Ostapenko, Portnov and Voloshyn, 2017; Ostapenko, Portnov and Forsiuk, 2018; Ostapenko, Shevchenko and Bakum, 2013; Ostapenko and Slobodianiuk, 2014; Ostapenko, Valigura and Kovalenko, 2013; Tkachenko and Ostapenko, 2009).

Table 1 Indices of heating systems (according to EEC data)

Heating system	Energy efficiency of initial energy, %	CO_2 emission, kg/kW
Electrical heating	35	0,55
Liquid fuel boiler, hot water heating	80	0,29
Gas-fired boiler, hot water heating	90	0,21
Heat pump with electric drive	110	0,22…0,14
Absorption heat pump	130	0,17
Heat pump with gas-engine drive	150	0,12

Source: Draganov and Mishchenko, 2006; Ostapenko and Slobodianiuk, 2014

In (Tkachenko and Ostapenko, 2009) the authors carried out the research, aimed at the increase of energy efficiency of heat supply sources by means of usage of HPI, taking into account the impact of scheme solutions and operation modes. Evaluation of HPI efficiency was performed in accordance with such criteria: fuel saving as compared with existing scheme, fuel and electric energy annual expenses, capital investment, thermal unit cost, term of recoupment, annual matching of expenses and profit. In (Ostapenko and Kolos, 2010) energy and ecological efficiency of heat pump installations with various sources of low-temperature heat for enterprises of food-processing industry was evaluated, rational temperature operation modes of HPI were determined and substantiated.

The aim of our research is determination of energy and ecological advantages and economic preconditions of usage of steam compressor heat pump installations with different sources of low-temperature heat and with different types of drive HPI for operation in heat supply systems; evaluation of energy, ecological and economic efficiency of HPI as compared with alternative sources of heat supply, with accounting the concept of sustainable development.

In (Ostapenko, 2015, 2016, 2017, 2018, 2019; Ostapenko, Bakum and Yuschishina, 2013; Ostapenko and Kolos, 2010; Ostapenko, Leshchenko and Tikhonenko, 2014, 2015) rational temperature operation modes of steam compressor HPI, at which the economy of equivalent fuel for various sources of low-temperature heat is obtained, are determined. On the basis of these results, the study of the efficiency of HPI with thermal capacity 1 MW with various types of compressor drive, at various sources of low-temperature heat on condition of annual operation of HPI and variable temperature modes operation during the year was performed.

Study was performed, applying the method of mathematical modeling of HPI operation. Energy, ecological and economic efficiency of steam compressor HPI was compared with the efficiency of alternative sources of heat supply (gas-fired boiler house and boiler house, operating in liquid fuel). The efficiency of HPI with electric drive, compressor drive from gas-piston engine (GPE) and drive from diesel engine was investigated. The schemes of the above-mentioned HPI are presented in (Ostapenko, 2015; Tkachenko and Ostapenko, 2009). The sources of low-temperature heat for HPI were: surface and ground waters, recycling water of circulating water supply system, geothermal waters, air, industrial heat emissions, sewage waters and heat of the soil. Characteristic of the souses of low-temperature heat is given in (Ostapenko, Bakum and Yuschishina, 2013).

Energy efficiency of HPI was evaluated by the index of equivalent fuel saving. Consumption of equivalent fuel by boiler house (for alternative sources of heat supply), HPI with GPE drive and diesel engine drive was evaluated. For HPI with electric drive, the consumption of equivalent fuel while electric energy generation at electric power stations was evaluated. Saving of equivalent and working fuel as a result of HPI introduction is considerably determined by optimally chosen HPI operation modes. The results of investigation of HPI energy efficiency, on condition of variable operation modes, are presented in (Ostapenko, 2016; Ostapenko, Shevchenko and Bakum, 2013; Ostapenko, Valigura and Kovalenko, 2013). As it was already mentioned, besides energy advantages, application of heat pumps leads to decrease of environmental contamination and reduction of harmful emissions in the atmosphere. For evaluation of ecological efficiency of HPI, the index of the amount of CO_2 emissions reduction is used (see table 1), because it is connected with economic efficiency of HPI. Attraction of financial resources, obtained at a result of selling quotas for CO_2 emissions, in accordance with the Kyoto Protocol, allows to increase economic efficiency of HPI introduction and reduce the term of their recoupment. In investigation takes into account that additional financial resources, obtained from selling quotas for CO_2 emissions represent 20 $/t of emissions.

Reduction of CO_2 emissions while using 1 MW HPI as compared with the operation of hot-water boiler of the same capacity, operating on natural gas or liquid fuel is evaluated. Emissions of CO_2 while gas or liquid fuel combustion in boilers (for alternative sources of heat supply), while combustion of working fuel in GPE and diesel engine (for compressor drive of HPI) and CO_2 emissions during electric energy generation at electric power plants (for HPI with electric drive) were taken into account. For evaluation of the amount of CO_2 emissions statistical data from the researches (Draganov and Mishchenko, 2006; Ostapenko and Slobodianiuk, 2014) (see table 1) were used.

Economic efficiency, obtained due to HPI introduction, is determined as the different of operation expenses of substituted hot-water boiler house and HPI. Operation expenses while hot-water boiler house or HPI functioning includes: expenses for fuel, electric energy, water, depreciation of equipment and current maintenance, earnings and other expenses, according to (Ostapenko, 2019). The most important component in the structure of operation expenses and

heat energy cost are fuel expenses (for boiler houses and HPI with GPE drive or diesel engine drive) and electric energy (for HPI with electric drive). Studies of HPI economic efficiency was performed for existing values of energy resources cost (price of electrical energy and price of natural gas) in Ukraine (prices at 01.04.19) ("National Energy and Utilities Regulatory Commission of Ukraine", 2019). Considerable impact on energy and, as a result, economic efficiency of HPI, produce HPI operation modes and temperature level of the chosen source of low-temperature heat. Investigations, regarding economic efficiency were carried out according to consolidated indices (Ostapenko, 2015, 2016, 2017, 2018, 2019; Ostapenko, Portnov and Voloshyn, 2017). For different variants of HPI, financial resources saving on fuel-energy resources and CO_2 emissions was evaluated. For different sources of heat in HPI, expenses for construction of heat extraction systems from low-temperature source were not taken into account. The suggested criteria (Ostapenko, 2015, 2016, 2017, 2018, 2019; Ostapenko, Portnov and Voloshyn, 2017) allow to evaluate energy, ecological and economic efficiency of HPI operation during a year. Fig. 1 shows values of annual saving of equivalent fuel ΔB_e (in %) for 1 MW HPI with different types of compressor drives, using the heat of various low-temperature sources. As it is seen from Fig. 1, for HPI with electric drive the saving of equivalent fuel is 18,51…54,53%; for HPI with GPE drive – 41,00…63,89%; for HPI with the drive from diesel engine – 43,95…65,69%. The greatest values of equivalent fuel saving correspond to such sources of heat for HPI as: recycling water, geothermal waters and industrial heat emissions, that is stipulated by their high temperature level.

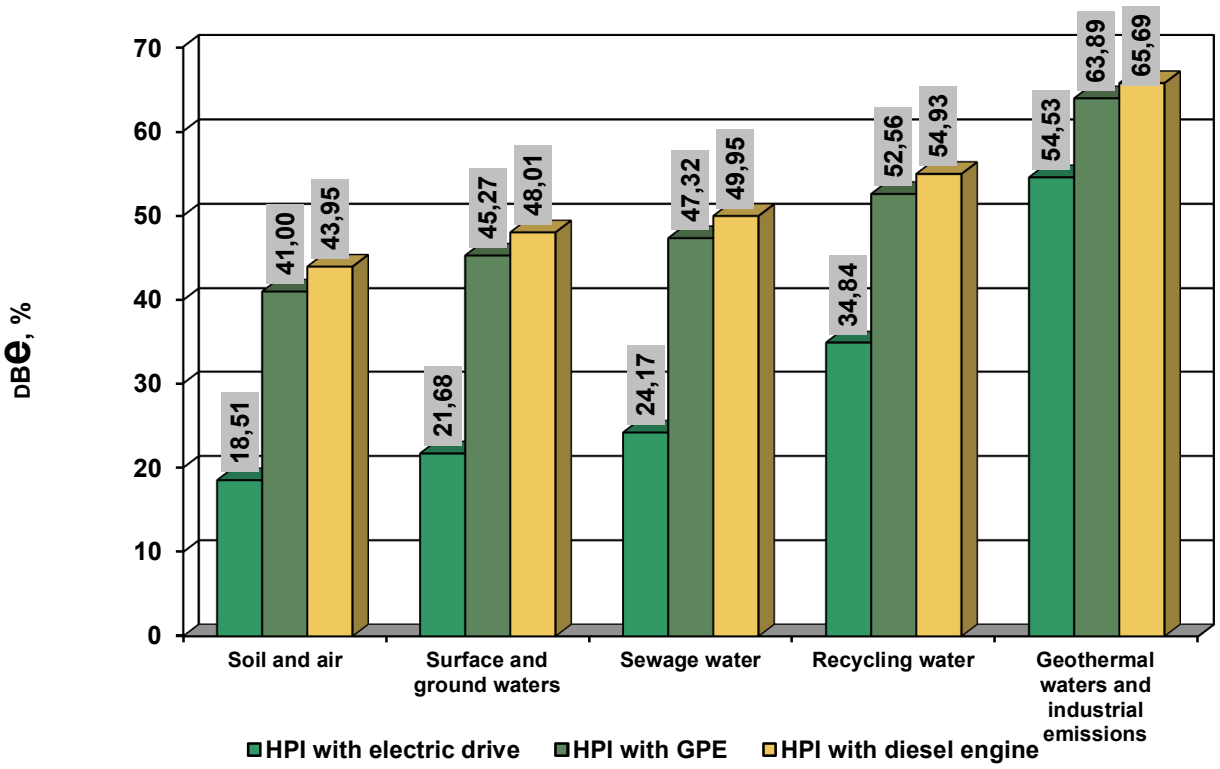


Fig. 1. Values of annual economy of equivalent fuel (in %) for HPI with various types of drive, using heat from different low-temperature sources

2. Ecological efficiency of steam compressor heat pump installations as compared with alternative sources of heat supply

Fig. 2 contains the values of annual amount of CO_2 emissions, while usage of 1 MW HPI with electric drive at different sources of low-temperature heat. For comparison the values of annual amount of CO_2 emissions of boiler house (BH) of the same power, operating on gaseous fuel (GFBH) and liquid fuel (LFBH) are showed here. Emissions of CO_2 while fuel combustion in boilers and CO_2 emissions in the process of electric energy generation at electric power stations were taken into account. As it is seen from Fig. 2, while usage of HPI with electric drive considerable reduction of the amount of CO_2 emissions as compared with boiler houses is recorded.

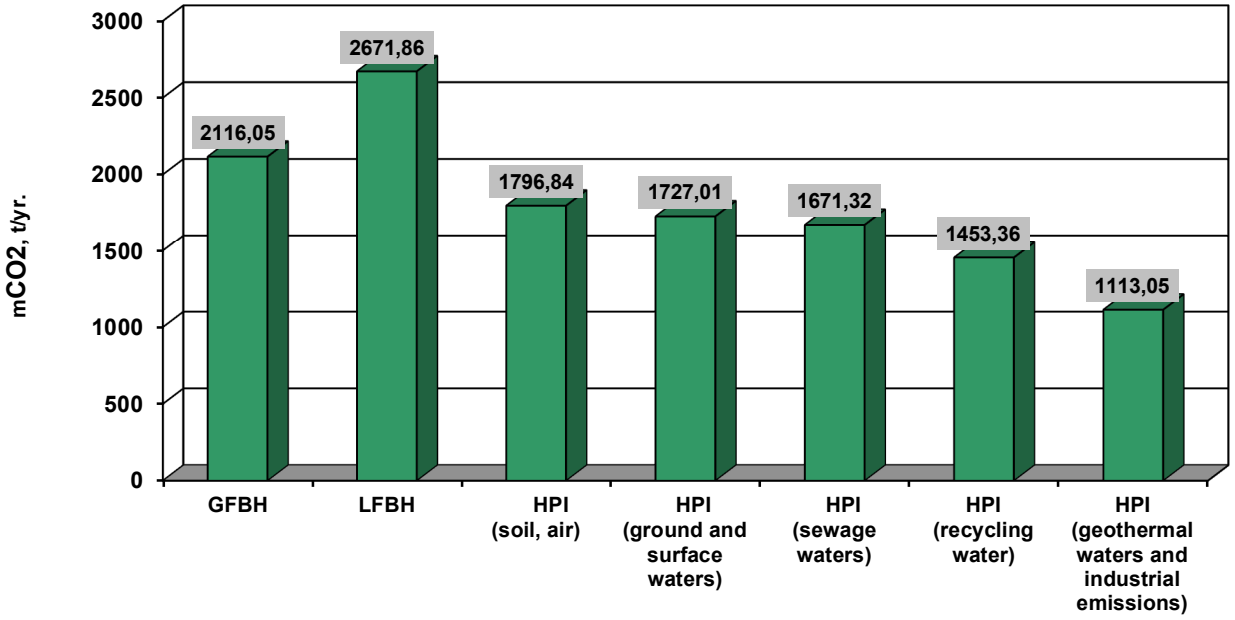


Fig. 2. Values of annual amount of CO_2 emissions produced by boiler houses, operating on gaseous and liquid fuel and 1 MW HPI with electric drive, operating on various sources of low-temperature heat

Fig. 3 shows the values of annual amount of CO_2 emissions, using 1 MW HPI with GPE-drive at different sources of low-temperature heat. For comparison, the values of annual amount of CO_2 emissions of boiler house of the same power, operating on gaseous fuel (GFBH) and liquid fuel (LFBH) are shown here. As it is seen from Fig. 3, while using of HPI with GPE drive considerable reduction of the annual CO_2 emissions is recorded, than for HPI with electric drive (see Fig. 2).

Fig. 4 contains the values of annual amount of CO_2 emissions while using 1 MW HPI with diesel engine drive at various sources of low-temperature heat. As in the previous cases, values of annual amount of CO_2 emissions of the boiler house of the same power, operating on gaseous and liquid fuel are shown for comparison. As it is seen in Fig. 4, in case of HPI with diesel engine drive usage, annual amount of CO_2 emissions is grater than for HPI with GPE drive, but less than for HPI with electric drive. As it is seen from Fig. 2-4 HPI produces less impact on the environment than boiler houses.

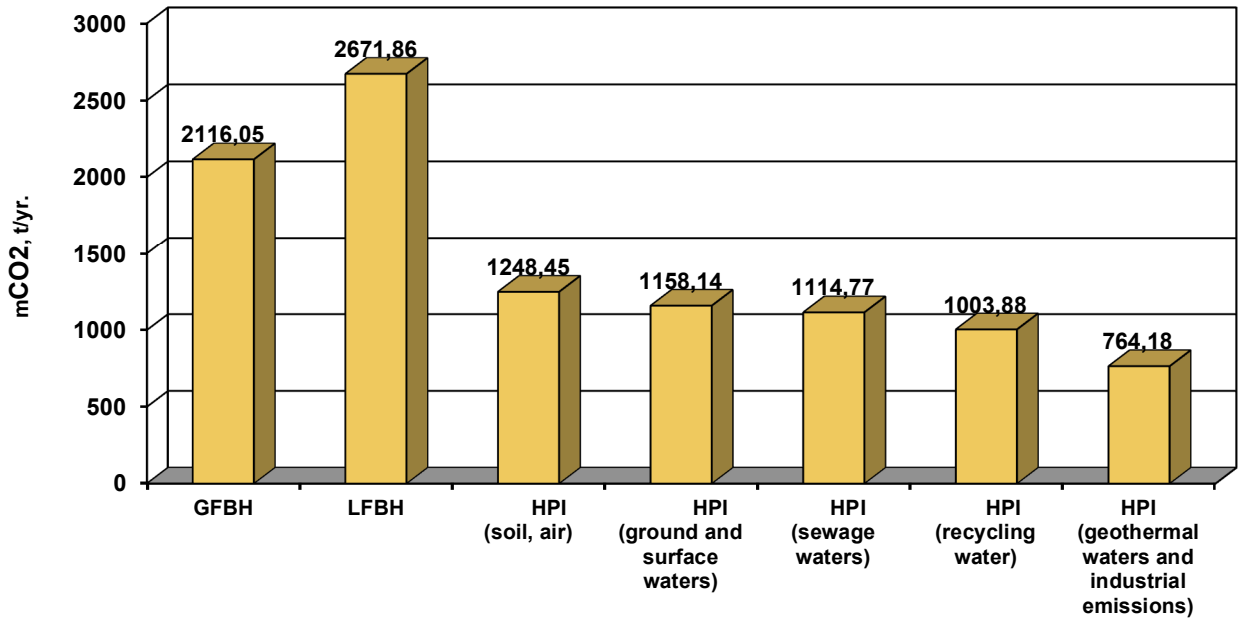


Fig. 3. Values of annual amount of CO_2 emissions, produced by boiler houses, operating on gaseous and liquid fuel and 1 MW HPI, with the drive from GPE, operating on various sources of low-temperature heat

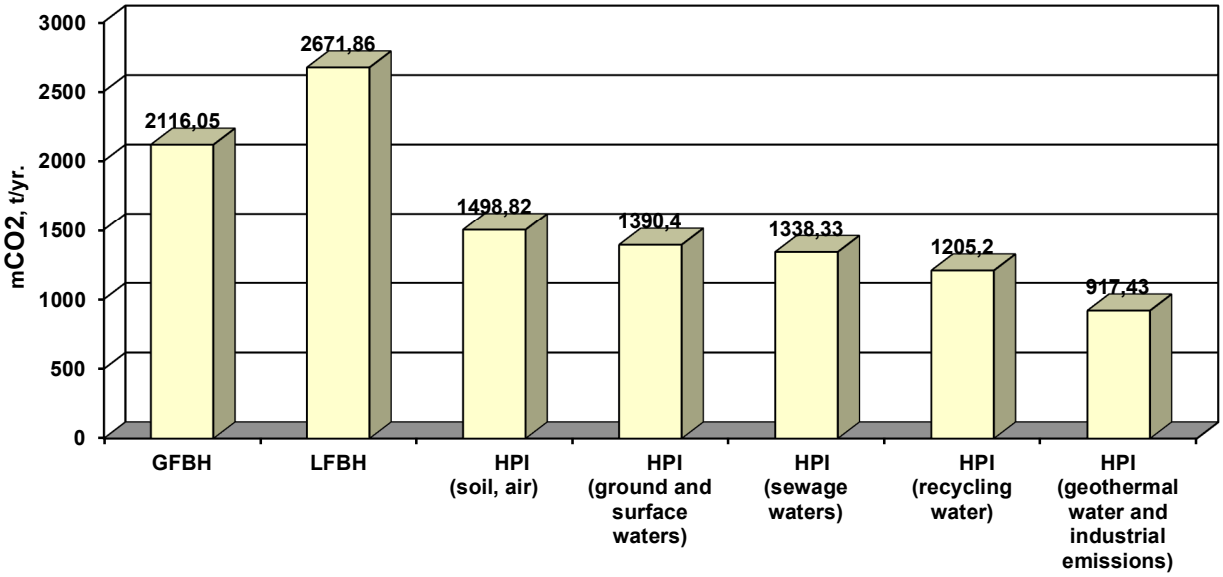


Fig. 4. Values of annual amount of CO_2 emissions, produced by boiler houses, operating on gaseous and liquid fuel and 1 MW HPI, with the diesel drive, operating on various sources of low-temperature heat

Fig. 5 shows values of annual reduction of CO_2 emissions amount, using 1 MW HPI with different types of compressor drive, at various sources of low-temperature heat, as compared with the operation of gas-fired boiler house. The greatest values of annual reduction of CO_2 emissions amount correspond to the following sources of heat for HPI: recycling water, geothermal waters and industrial heat emissions. It is stipulated by high temperature level of the above-mentioned sources of low-temperature heat and, as a result, high energy efficiency of HPI in these sources of low temperature heat are used.

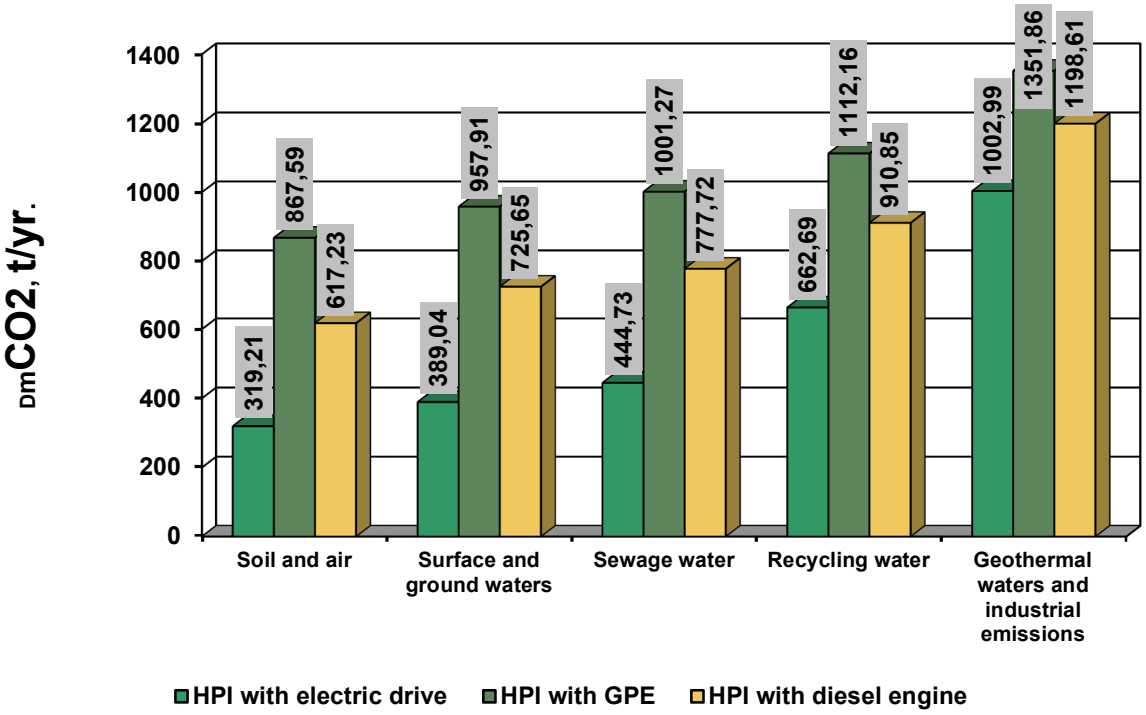


Fig. 5. Values of annual reduction of CO_2 emissions, using 1 MW HPI with various types of compressor drive, at different sources of low-temperature heat, as compared with the operation of gas-fired boiler house

Fig. 6 shows values of annual reduction of CO_2 emissions amount, using 1 MW HPI with different types of compressor drive, at various sources of low-temperature heat, as compared with the operation of liquid fuel boiler house. As in the previous case, the greatest values of annual reduction of CO_2 emissions amount correspond to the following sources of heat for HPI: recycling water, geothermal waters and industrial heat emissions. It is stipulated by high temperature level of the above-mentioned sources of low-temperature heat and, as a result, high energy efficiency of HPI in these sources of low temperature heat are used.

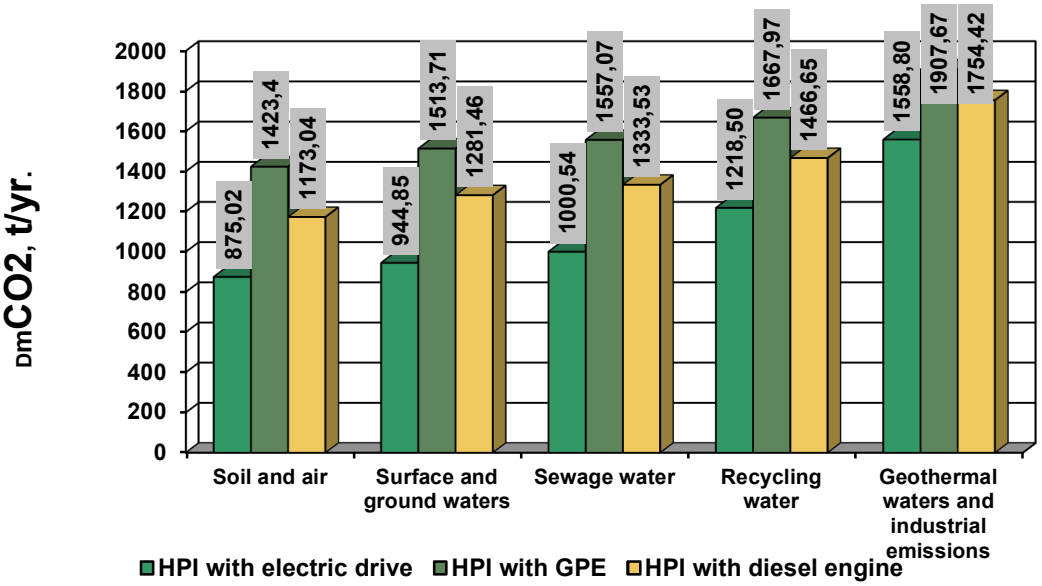


Fig. 6. Values of annual reduction of CO_2 emissions, using 1 MW HPI with various types of compressor drive, at different sources of low-temperature heat, as compared with the operation of liquid fuel boiler house

Fig. 7 contains the values of annual reduction of CO_2 emissions amount (in %) for the cases when HPI with different types of drive, at various sources of low-temperature heat, as compared with the operation of gas-fired boiler house. Fig. 8 contains the values of annual reduction of CO_2 emissions amount (in %) for the cases when HPI with different types of drive, at various sources of low-temperature heat, as compared with the operation of liquid fuel boiler house. It is seen from Fig. 7 and Fig. 8, that for HPI with different types of drive, for all investigated sources of low-temperature heat the reduction of CO_2 emissions amount is provided.

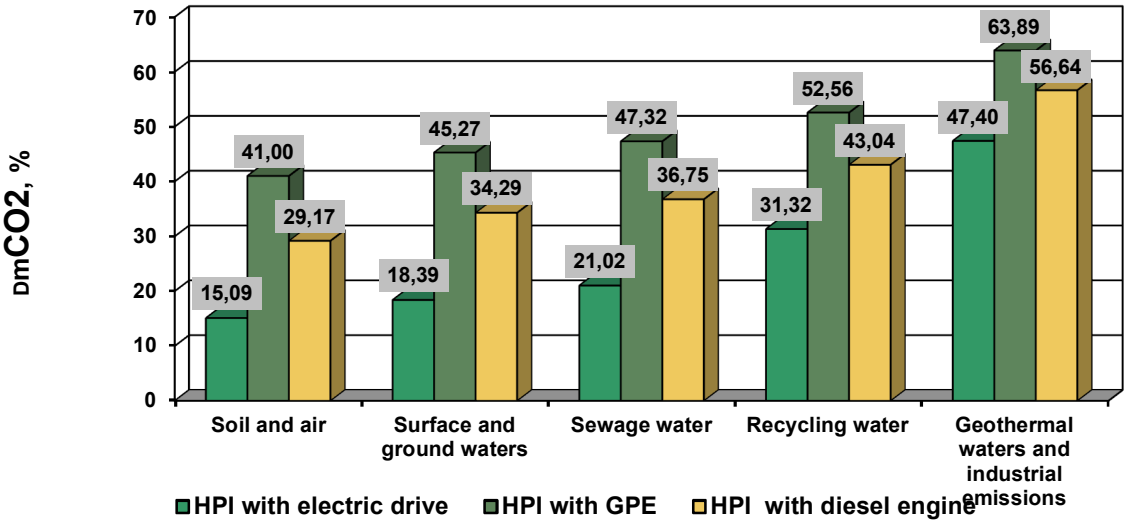


Fig. 7. Values of annual reduction of CO_2 emissions (in %) for the cases of HPI usage with various types of drive at different sources of low-temperature heat, as compared with gas-fired boiler house

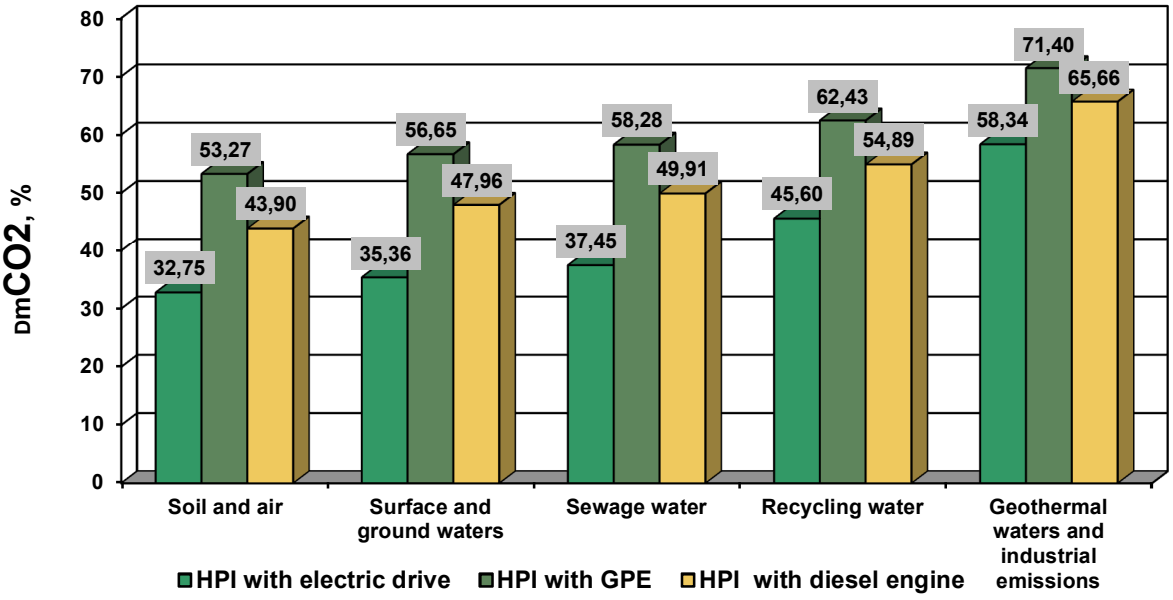


Fig. 8. Values of annual reduction of CO_2 emissions (in %) for the cases of HPI usage with various types of drive at different sources of low-temperature heat, as compared with liquid fuel boiler house

3. Ecological and economic efficiency of steam compressor heat pump installations as compared with alternative sources of heat supply

Fig. 9 shows the values of annual saving of ΔE_e funds on CO_2 emission, using 1 MW HPI with different types of drive, at various sources of low-temperature heat, as compared with gas-fired boiler house. Depending on the chosen variant of HPI application, annual saving of financial resources on CO_2 emissions will be from 172,37 to 730,01 thous. hrs./yr.

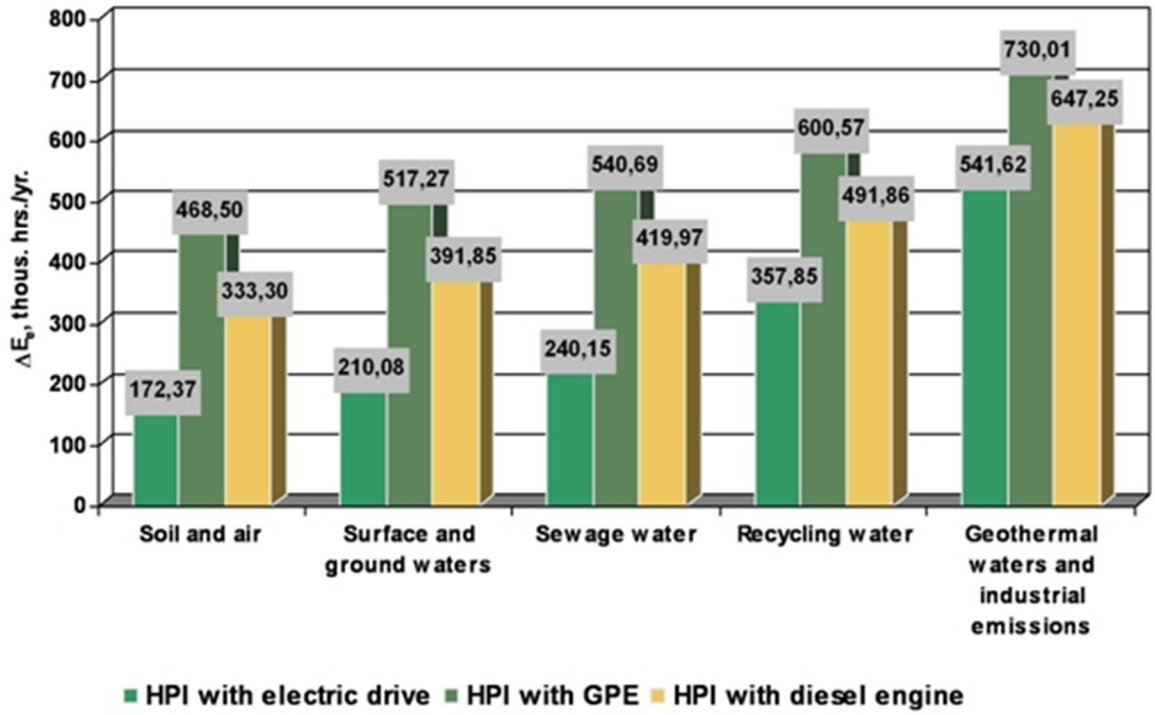


Fig. 9. Values of annual cost saving on CO_2 emissions, using 1 MW HPI with various types of drive on different sources of low-temperature heat, as compared with the operation of gas-fired boiler house

Fig. 10 shows the values of annual saving of ΔE_e funds on CO_2 emission, using 1 MW HPI with different types of drive, at various sources of low-temperature heat, as compared with liquid fuel boiler house. Depending on the chosen variant of HPI application, annual saving of financial resources on CO_2 emissions will be from 472,51 thous. hrs./yr. to 1,030 mln. hrs./yr.

Fig. 11 shows the distribution of annual saving of finance on the fuel ΔE_f and emissions ΔE_e for the cases of usage of HPI with GPE drive, at different sources of low-temperature heat, as compared with the operation of gas-fired boiler house. As it is seen from Fig. 11, the greatest values of annual saving of finance on fuel and emissions correspond to the following sources of heat for HPI: recycling water, geothermal waters and industrial heat emissions. It is stipulated by high temperature level of the above-mentioned sources of low-temperature heat, high energy efficiency of HPI and considerable saving of fuel in case of usage of these sources of low-temperature heat.

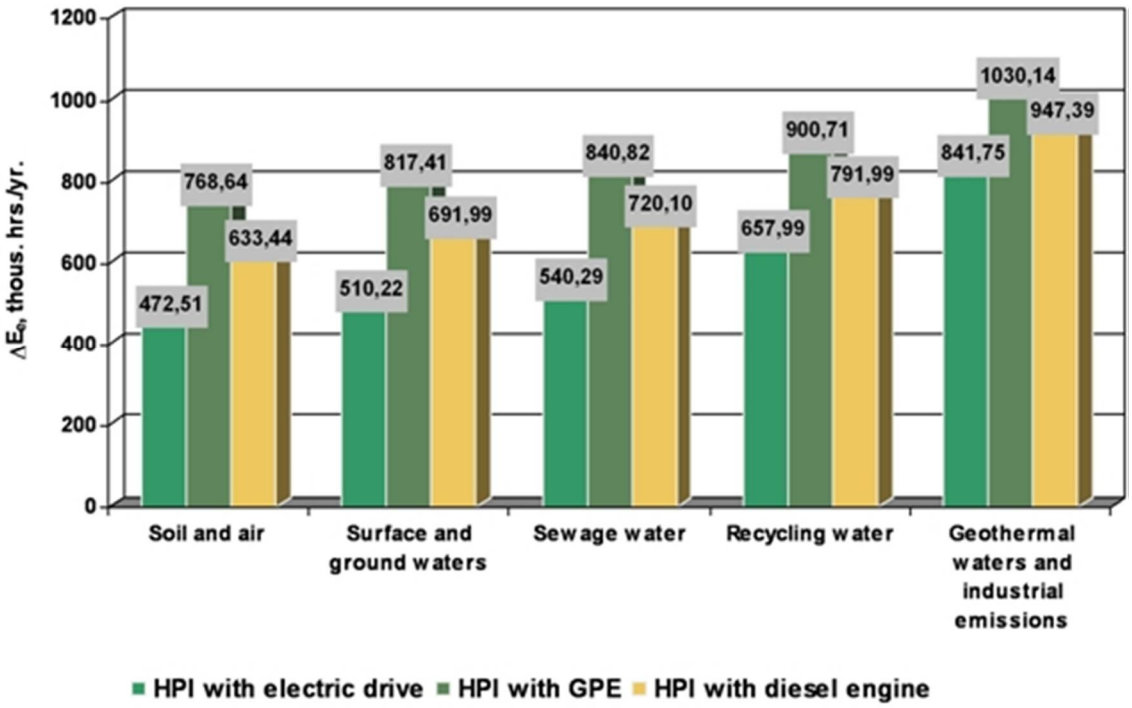


Fig. 10. Values of annual cost saving on CO_2 emissions, using 1 MW HPI with various types of drive on different sources of low-temperature heat, as compared with the operation liquid fuel boiler house

Fig. 12 shows the distribution of annual saving of finance on the fuel ΔE_f and emissions ΔE_e for the cases of usage of HPI with GPE drive, at different sources of low-temperature heat, as compared with the operation of liquid fuel boiler house.

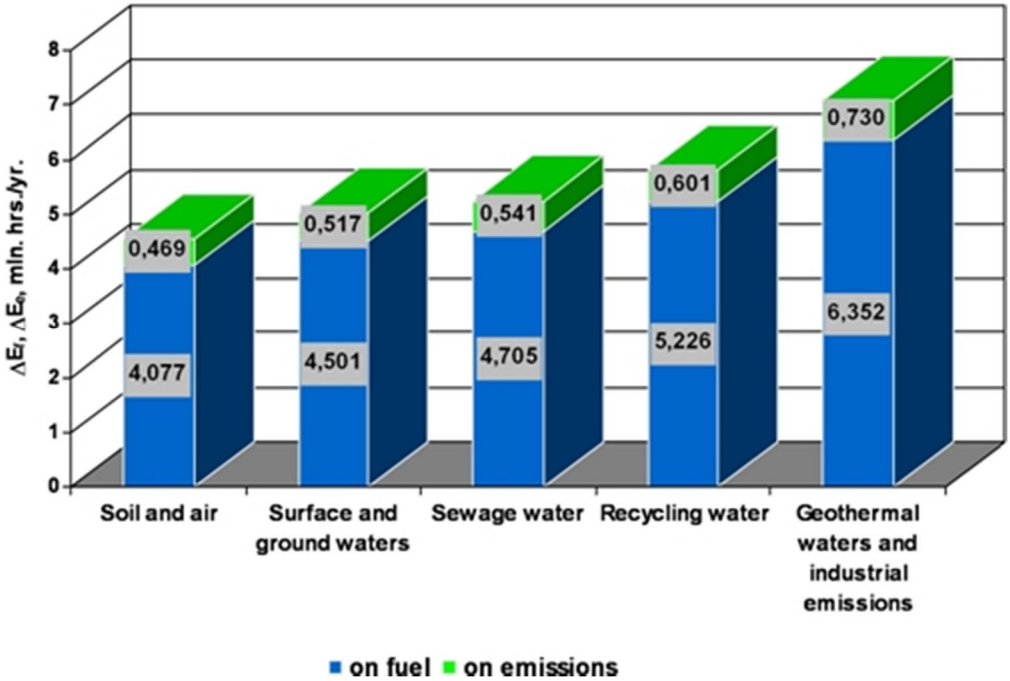


Fig. 11. Distribution of annual cost saving on fuel and emissions for the cases of HPI with GPE-drive, at different sources of low-temperature heat, as compared with the operation of gas-fired boiler house

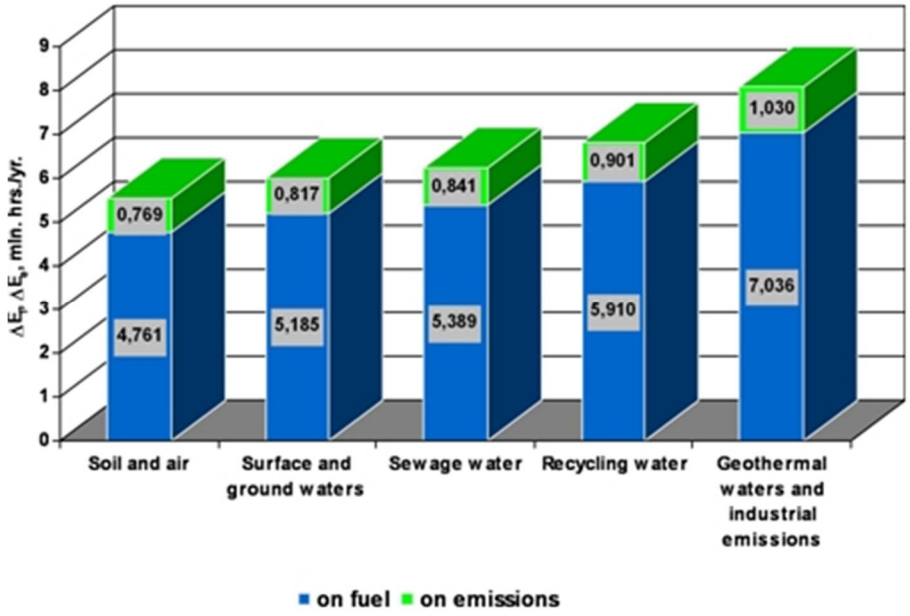


Fig. 12. Distribution of annual cost saving on fuel and emissions for the cases of HPI with GPE-drive, at different sources of low-temperature heat, as compared with the operation of liquid fuel boiler house

As it is seen from Fig. 12, as in the previous case, the greatest values of annual saving of finance on fuel and emissions correspond to the following sources of heat for HPI: recycling water, geothermal waters and industrial heat emissions. It is stipulated by high temperature level of the above-mentioned sources of low-temperature heat, high energy efficiency of HPI and considerable saving of fuel in case of usage of these sources of low-temperature heat. Fig. 13 shows the distribution of annual saving of finance on fuel and energy resources ΔE_f and emissions ΔE_e as a result of usage of HPI with electric drive, for various sources of low-temperature heat, as compared with the operation of gas-fired boiler house.

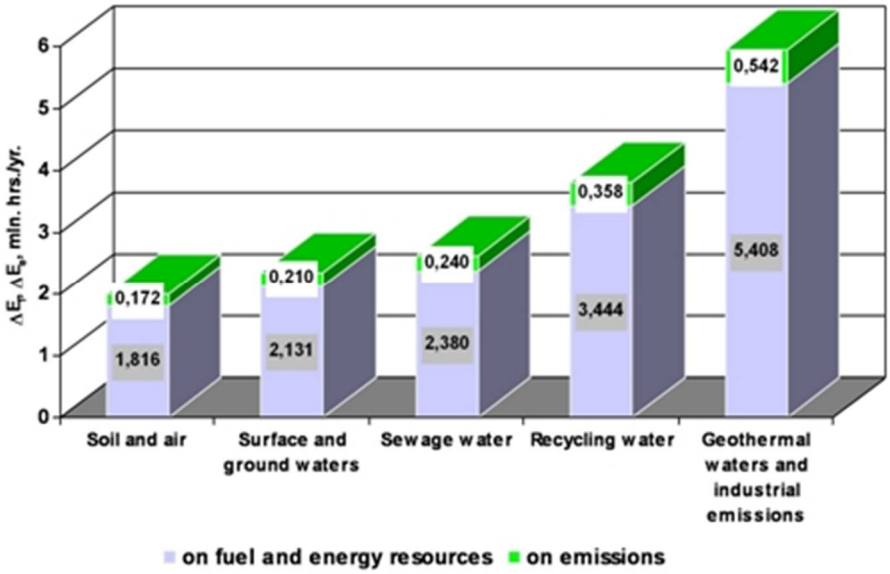


Fig. 13. Distribution of annual cost saving on fuel and emissions as a result of HPI with electric drive usage, for different sources of low-temperature heat, as compared with the operation of gas-fired boiler house

Fig. 14 shows the distribution of annual saving of finance on fuel and energy resources ΔE_f and emissions ΔE_e as a result of usage of HPI with electric drive, for various sources of low-temperature heat, as compared with the operation of liquid fuel boiler house.

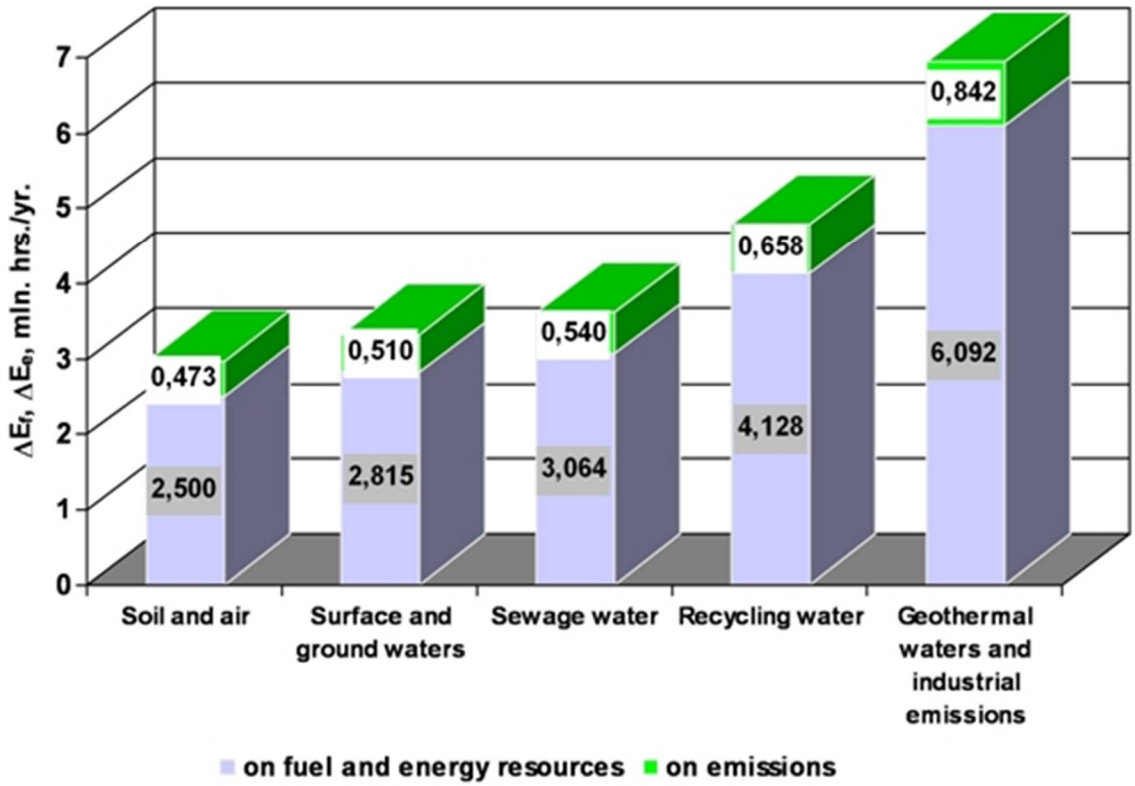


Fig. 14. Distribution of annual cost saving on fuel and emissions as a result of HPI with electric drive usage, for different sources of low-temperature heat, as compared with the operation of liquid fuel boiler house

It is seen from Fig. 11 and Fig. 12, that in case of usage of HPI with GPE-drive greater finance saving is obtained (on fuel and general) than for HPI with electric drive (see Fig. 13 and Fig. 14). It is stipulated, first of all, by considerable amounts of expensive working fuel saving as a result of application of HPI with GPE-drive.

Conclusions.

The investigation presents the approach, aimed at increasing of the energy efficiency, ecological and economic efficiency of the sources of heat supply with application of heat pump installations, with taking into account the concept of sustainable development. In our study three aspects of sustainable development were considered: economic, environmental and social.

In our research, the energy and ecological advantages and economic preconditions of usage of steam compressor HPI with different sources of low-temperature heat and with different types of drive HPI for operation in heat supply systems are determined. Our study presents the results of evaluation of energy, ecological and economic efficiency of HPI as compared with alternative sources of heat supply, with accounting the concept of sustainable development.

Evaluation of energy, ecological and economic efficiency of steam compressor HPI with different types of drive HPI, with various sources of low-temperature heat (surface and ground waters, recycling water of circulating water supply system, geothermal waters, air, industrial heat emissions, sewage waters and heat of the soil) in the systems of heat supply as compared with alternative sources of heat supply is carried out. The indexes of energy, ecological and economic efficiency evaluation of steam compressor HPI are substantiated, that aimed to the determination of energy effective, economic reasonable and ecologically safe operation of the sources of heat supply, based on the HPI with various sources of low-temperature heat and sources of drive energy of HPI.

Values of annual saving of equivalent fuel for 1 MW HPI with different types of drive, using the heat of various low-temperature sources are determined. Depending on the chosen sources of low-temperature heat the saving of equivalent fuel is: for HPI with electric drive 18,51…54,53%; for HPI with GPE drive – 41,00…63,89%; for HPI with the drive from diesel engine – 43,95…65,69%. The greatest values of equivalent fuel saving correspond to such sources of heat for HPI as: recycling water, geothermal waters and industrial heat emissions, that is stipulated by their high temperature level. Reduction of CO_2 emissions while using 1 MW HPI as compared with the operation of hot-water boiler house of the same power, functioning on natural gas and liquid fuel, was evaluated. It was determined, that: for HPI with different types of drive, for all investigated sources of low-temperature heat, reduction of the amount of CO_2 emissions is provided; for HPI with GPE drive considerable reduction of annual amount of CO_2 emissions than for HPI with electric drive is registered; if HPI with diesel engine is used, annual amount of CO_2 emissions is grater than for HPI with GPE drive, but is less, than for HPI with electric drive; HPI produce less impact on the environment, than boiler houses on natural gas and liquid fuel.

Economy of finance for fuel and energy resources and emissions for 1 MW HPI with different types of drive, using the heat of various low-temperature sources is evaluated. When HPI with GPE-drive is used, greater saving of resources (on fuel and general), than for HPI with electric drive is obtained. It is stipulated, first of all, by considerable volumes of expensive working fuel saving, as a result of application of HPI with GPE-drive.

The greatest values of equivalent fuel saving, annual reduction of the amount of CO_2 emissions, annual saving of finance resources on fuel and emissions correspond to such sources of heat for HPI as: recycling water, geothermal waters and industrial heat emissions. It is stipulated by high temperature level of the above-mentioned sources of low-temperature heat, high energy efficiency of HPI and considerable saving of fuel in case of usage of these sources of low temperature. The approach, suggested in the given research, is developed on the results of the researches (Brych and Fedirko, 2018; Draganov and Mishchenko, 2006; Emas, 2015; Klarin, 2018; Ostapenko, 2015, 2016, 2017, 2018, 2019; Ostapenko, Bakum and Yuschishina, 2013; Ostapenko and Kolos, 2010; Ostapenko, Leshchenko and Tikhonenko, 2014, 2015; Ostapenko and Portnov, 2018; Ostapenko, Portnov and Voloshyn, 2017; Ostapenko, Portnov and Forsiuk, 2018; Ostapenko,

Shevchenko and Bakum, 2013; Ostapenko and Slobodianiuk, 2014; Ostapenko, Valigura and Kovalenko, 2013; Tkachenko and Ostapenko, 2009) and with taking into account the concept of sustainable development, with taking into consideration of the three aspects of sustainable development: economic, environmental and social; that dealing with the increasing of the energy efficiency, ecological and economic efficiency of the sources of heat supply with application of HPI, using various sources of low-temperature heat and with different types of drive HPI, enabled to provide the substantiated definition of energy effective, economic reasonable and ecologically safe operation of the sources of heat supply with HPI, with various sources of low-temperature heat and sources of drive energy of HPI, for heat power branch of Ukraine.

References.

Brych, V. Yar., & Fedirko, M. M. (2018). Concept of Energy Efficiency in the Context of Sustainable Development of Ukraine's Municipal Heat Engineering. *Ukrainian Journal of Applied Economics*, 3, 1. Retrieved from: http://ujae.tneu.edu.ua/index.php/ujae/article/view/214/212. [in Ukrainian]

Draganov, B. Kh., & Mishchenko, A. V. (2006). K voprosu o teplovykh nasosakh. *Promyshlennaya teplotekhnika*, 28, 2, 94 – 98. [in Russian]

Emas, R. (2015). The Concept of Sustainable Development: Definition and Defining Principles. *Brief for GSDR 2015*. Retrieved from: https://sustainable-development.un.or

Klarin, T. (2018). The Concept of Sustainable Development: From its Beginning to the Contemporary Issues, *Zagreb International Review of Economics and Business*,21 (1), 67-94.

National Energy and Utilities Regulatory Commission of Ukraine. (2019). Retrieved from: http://www.nerc.gov.ua./

Ostapenko, O. P. (2015). Complex evaluation of energy efficiency of steam compressor heat pump plants with cogeneration drive. *Scientific Works of Vinnytsia National Technical University*, 3. Retrieved from: http://works.vntu.edu.ua/ index.php/works/article/view/36/36. [in English]

Ostapenko, O. P. (2015). Methodical fundamentals of complex assessment of energy efficiency of steam compressor heat pump plants with electric and cogeneration drive. *Scientific Works of Odesa National Academy of Food Technologies*, 47, 157-162. [in Ukrainian]

Ostapenko, O. P. (2015). *Refrigeration equipment and technology. Heat pumps*. Vinnytsia: VNTU. [in Ukrainian]

Ostapenko, O. P. (2016). Energy efficiency of energy supply systems, based on combined cogeneration heat pump installations and peak sources of heat. *Scientific Works of Vinnytsia National Technical University*, 1. Retrieved from: http://works.vntu.edu.ua/index.php/ works/article/view/462/464.

Ostapenko, O. P. (2016). Energy efficiency of energy supply systems with cogeneration heat pump installations and peak sources of heat in heat supply systems. *Scientific Works of Vinnytsia National Technical University*, 2. Retrieved from: https://works.vntu.edu.ua/index.php/works/article/view/472/474.

Ostapenko, O. P. (2016). *Scientific basis of evaluation energy efficiency of heat pump plants*. Saarbrücken: LAP LAMBERT Academic Publishing.

Ostapenko, O. P. (2016). Scientific fundamentals of assessment of energy supply systems on the base of cogeneration heat pump installations. *Actual Problems of Power Generation and Ecology: materials of the XVI All-Ukrainian Scientific-Technical Conference* (p. 15 – 17). – Kherson: PPE Grin D. S. [in Ukrainian]

Ostapenko, O. P. (2016). Spheres of energy efficient operation of energy supply systems with cogeneration-heat pump installations and peak sources of heat. *Scientific Works of Vinnytsia National Technical University*, 3. Retrieved from: https://works.vntu.edu.ua/index.php/works/article/view/479/481.

Ostapenko, O. P. (2016). Spheres of high energy efficiency of energy supply systems with cogeneration heat pump installations of large power and peak fuel-fired boilers. *Science and Education a New Dimension. Natural and Technical Science*s, 110, 64-67.

Ostapenko, O. P. (2017). Areas of high energy efficiency of energy supply systems with cogeneration heat pump installations of large power and peak fuel-fired boilers for heat supply systems. *Science and Education a New Dimension. Natural and Technical Sciences*, 132, 70-74.

Ostapenko, O. P. (2017). Areas of high energy efficiency of energy supply systems with cogeneration heat pump installations of small power and peak electric boilers in heat supply systems. *Science and Education a New Dimension. Natural and Technical Sciences*, 121, 77-80.

Ostapenko, O. P. (2017). Areas of high energy efficiency of energy supply systems with cogeneration heat pump installations of small power and peak fuel-fired boilers. *Science and Education a New Dimension. Natural and Technical Sciences*, 140, 64-68.

Ostapenko, O. P. (2017). Areas of high energy efficiency of energy supply systems with cogeneration heat pump installations of small power and peak electric boilers. *Science and Education a New Dimension. Natural and Technical Sciences*, 148, 85-89.

Ostapenko, O. P. (2017). Methodical fundamentals of energy economical efficiency assessment of energy supply systems with cogeneration heat pump installations and peak sources of heat. *Scientific Works of Odesa National Academy of Food Technologies*, 81, 136 – 141. [in Ukrainian]

Ostapenko, O. P. (2017). Spheres of high energy efficiency of energy supply systems with cogeneration-heat pump installations of small power and fuel-fired boilers in heat supply systems. *Scientific Works of Vinnytsia National Technical University*, 1. Retrieved from: https://works.vntu.edu.ua/index.php/works/article/ view/497/499. [in English]

Ostapenko, O. P. (2017). Methodical fundamentals of complex assessment of energy-ecological-economic efficiency of energy supply systems with cogeneration heat pump installations and peak sources of heat. *Scientific Works of Vinnytsia National Technical University,* 3. Retrieved from: https://works.vntu.edu.ua.

Ostapenko, O. P. (2018). Application of the method of complex assessment of energy-ecological-economic efficiency of energy supply systems with cogeneration heat pump installations and peak sources of heat. *Science and Education a New Dimension. Natural and Technical Sciences*, 171, 51 – 54. DOI: 10.31174/SEND-NT2018-171VI19-11.

Ostapenko, O. P. (2018). *Formation of energy-efficient competence of specialists on efficient use of energy supply systems with cogeneration heat pump installations in energy-ecological-economic aspects*. Professional Competency of Modern Specialist: Means of Formation, Development and Improvement (pp. 98 – 112). Warsaw: Institute of European Integration, Bmt Eridia Sp. zo. o.

Ostapenko, O. P. (2018). Principles for selection of the areas of energy-ecological-economic efficiency of energy supply systems with cogeneration heat pump installations and peak sources of heat. *Applied Scientific and Technical Research –2018: proceedings of the Second International Scientific and Practical conference* (p. 69). Ivano-Frankivsk.

Ostapenko, O. P. (2018). Substantiation of the method of complex assessment of energy-ecological-economic efficiency of energy supply systems with cogeneration heat pump installations and peak sources of heat. *Scientific Works of Vinnytsia National Technical University*, 1. Retrieved from: https://works.vntu.edu.ua.

Ostapenko, O. P. (2019). *Study of energy-economic efficiency of energy supply systems with cogeneration heat pump installations, using the heat of the industrial and natural sources, in industry and municipal heat power branch of Ukraine*. Social and Legal Aspects of the Development of Civil Society Institutions (pp. 292 – 308). Warsaw: Institute of European Integration, Bmt Eridia Sp. zo. o.

Ostapenko, O. P., & Kolos, I. S. (2010). Energy and ecological efficiency of heat pump installations at food industry enterprises, *Visnyk of Vinnytsia Polytechnical Institute*, 3, 67–71. [in Ukrainian]

Ostapenko, O. P., & Portnov, V. M. (2018). Analysis of energy-economic efficiency of energy supply systems with cogeneration heat pump installations in industry and municipal heat power branch of Ukraine. *Imperatives of Civil Society Development in Promoting National Competitiveness: proceedings of the 1st International Scientific and Practical conference* (volume I, pp. 111 – 113). Batumi: Publishing House «Kalmosani».

Ostapenko, O. P., & Portnov, V. M. (2018). Analysis of energy-economic efficiency of energy supply system with cogeneration heat pump installation on the heat of surface water. *Effective Processes and Equipment for Chemical Production and Packaging Machinery: proceedings of the VIII All-Ukrainian Scientific and Practical Conference* (pp. 25 – 27). Kyiv: Igor Sikorsky Kyiv Polytechnic Institute. [in Ukrainian]

Ostapenko, O. P., & Portnov, V. M. (2018). Economical aspects of the efficiency of usage of energy supply systems with cogeneration heat pump installations of various power levels. *Eastern European Studies: Economics, Education and Law: proceedings of the International Scientific conference* (volume II, pp. 60 – 62). Burgas.

Ostapenko, O. P., & Slobodianiuk, A. M. (2014). Energy, ecological and economic efficiency of steam compressor heat pump plants as compared with alternative sources of heat supply. *Scientific Works of Vinnytsia National Technical University*, 2. Retrieved from: https://works.vntu.edu.ua/index.php/works/article /view/412/410.

Ostapenko, O. P., Bakum, Y. V., & Yuschishina, A. V. (2013). Energy, ecology and economy aspects of the efficiency of heat power stations operating on natural and industrial heat sources. *Scientific Works of Vinnytsia National Technical University*, 3. Retrieved from: https://works.vntu.edu.ua/index.php/works/article/ view/384/382.

Ostapenko, O. P., Leshchenko, V. V., & Tikhonenko, R. O. (2014). Energy efficiency of steam compressor heat pumps with electric and cogeneration drive. *Scientific Works of Vinnytsia National Technical University*, 4. Retrieved from: http://works.vntu.edu.ua.

Ostapenko, O. P., Leshchenko, V. V., & Tikhonenko, R. O. (2015). Energy advantages of application of steam compressor heat pumps with electric and cogeneration drive. *Scientific Works of Vinnytsia National Technical University*, 1. Retrieved from: http://works.vntu.edu.ua/index.php/ works/article/view/437/435.

Ostapenko, O. P., Leshchenko, V. V., & Tikhonenko, R. O. (2015). Energy efficiency of energy supply systems, based on combined cogeneration heat pump installations. *Scientific Works of Vinnytsia National Technical University*, 4. Retrieved from: http://works.vntu.edu.ua/index.php/works/article/view/451/453.

Ostapenko, O. P., Portnov, V. M., & Forsiuk, P. D. (2018). Study of variable operation modes energy economic efficiency of energy supply systems with cogeneration heat pump installations, using the heat of the industrial and natural sources. *Scientific Works of Vinnytsia National Technical University*, 2. Retrieved from: https://works.vntu.edu.ua/index.php/works/article/view/537/536.

Ostapenko, O. P., Portnov, V. M., & Voloshyn, A. D. (2017). Indices of energy-economic efficiency of energy supply systems on the base of cogeneration-heat-pump installations and peak sources of heat. *XLVI Scientific-engineering Conference of Vinnytsia National Technical University: electronic scientific edition of the materials.* – Vinnytsia: VNTU. Retrieved from: https://conferences.vntu.edu.ua. [in Ukrainian]

Ostapenko, O. P., Shevchenko, O. V., & Bakum, O. V. (2013). Energy efficiency of heat pumping stations with different heat sources on condition of variable operation modes. *Scientific Works of Vinnytsia National Technical University*, 4. Retrieved from: https://works.vntu.edu.ua/index.php/works/article/ view/394/392.

Ostapenko, O. P., Valigura, I. O., & Kovalenko, A. D. (2013). Energy ecological efficiency of heat pumping stations, operating on natural and industrial sources of heat at variable operation modes. *Scientific Works of Vinnytsia National Technical University,* 2. Retrieved from: https://works.vntu.edu.ua/index.php/ works/article/view/376/374.

Tkachenko, S. Y., & Ostapenko, O. P. (2009). *Steam compressor heat pump installations in heat supply systems*. Vinnytsia: UNIVERSUM-Vinnytsia. [in Ukrainian]

Iryna Krylova
Candidate of Law, Doctoral student,
National Academy for Public Administration under the President of Ukraine,
Kyiv, Ukraine

THE STATE INFLUENCE AND SUPERVISION OF WATER AND SANITATION IN UKRAINE

Abstract*. The main methods of state influence on economic relations and economic entities and an analysis of the existing control system of water and sanitation, its elements and connections have been overviewed in the article. The general definitions of the concepts of supervision, monitoring, accounting, as means of implementation of the state supervision of water and sanitation have been dealt with in the article, their characteristics and differences are presented. The legal grounds for realization of state, industrial, public and other kinds of control of water and sanitation, the efficiency of their implementation have been analyzed. The problem issues that affect the efficiency of monitoring and monitoring of water and sanitation have been determined, and suggestions for improving the control system have been made. The author concludes that the modern system of monitoring the compliance with the requirements of the legislation of domestic water and public water supply is imperfect. The control system improvement of water and sanitation depends on the state policy by amending a law, establishing monitoring institutions with appropriate competence, reviewing the liability system and establishing an inadequate level of feedback between the control system entities.*

JEL Classification: L 950, L 970, L 510

Introduction.

The main principle of the state policy and governance is legitimacy, such as the strict implementation of laws and other public acts adopted in accordance with them, by state authorities, public officials, citizens, non-state bodies and organizations (Averianov, 2004). Loyalty implies that the state carries out its functions by legal methods and in legal forms. This is primarily due to the significance of the activity and influence to the state run public authorities on all spheres of social relations, their right to take normative and individual legal acts on the basis of laws and in accordance with them, to consider and resolve cases of application of methods of administrative and disciplinary liability (Averianov, 2004). Law enforcement of public administration is the appointment of the state supervision, the essence of which is to observe and verify the development of the social system and all its elements in accordance with the specified directions, as well as in preventing and correcting possible errors and wrongful acts that impede such development (Averianov, 2004). Especially when it comes to one of the important spheres of the modern socio-economic system, housing and communal services, water and sanitation, which directly are affected the living standards. There is all the more reason for this as the norms and standards defined by the legislation of water and sanitation, the principles, powers for exercising supervision functions in this area, implementation and observance of these standards and principles are inadequate. What is reflected in systemic violations of consumer rights, rights of water supply and sewage enterprises, non-compliance with legal norms, etc.

In view of the above, it is necessary to determine the basic principles of monitoring and monitoring of water supply and sanitation, to identify the differences between the named phenomena, to define the system of monitoring and monitoring in the field, and the effectiveness of its functioning.

1. The basic methods of the state influence of water and sanitation

The state protects these rights, fair trade rules. At the same time, it is not allowed to abuse monopolistic market position, competition discrimination and concurrence deloyale. On the one hand, the government regulation of business proceeds from the principles of the governmental non-interference with business, except cases provided by law. But on the other hand, the need for organization, streamlining and control of economic activity. The need for state influence on economic activity is determined by several requirements for the protection of public interests. This includes the provision of state and social needs, priorities in economic and social development; formation of the state budget; protection of the environment and the use of natural resources; providing defense of the country; the realization of freedom of entrepreneurship and competition, etc. (Smolyn, 2012).

It is understood the totality of methods of influence of the state through the legislative, executive and judicial authorities on economic entities with the purpose of creation and provision of conditions of economic activity in accordance with the idea of a socially oriented economy and national economic policy under the method of state economic impact. There are a few criteria for the distribution of methods, but the most interesting for our study is the methods classification by the nature of the direct effect (administrative enforcement) and indirect (economic and other incentives). The scientists recognize the external expression of the action of state bodies, arising in the process of implementing their specific tasks and functions in the case of using the chosen method of state influence on the economy is to be the form of state influence on economic relations (Averianov, 2004).

The state applies a variety of tools and mechanisms for regulating economic activity to implement the economic policy, the targeted economic and other programs and programs of economic and social development. The state regulation methods of economic activity are defined by the lawmaking body as a set of regulating the state influence methods on the activities of economic entities, where the economic activity of economic entities is the subject of state regulation. The main methods of regulating the impact on economic activity legislator include government order; licensing, patenting and quotation; certification and standardization; application of norms and limits; price and tariffs adjustments; granting of investment, tax and other privileges; providing subsidies, compensations, targeted innovations and subsidies. These methods are regulated by separate normative-legal acts, such as the Laws of Ukraine "On Licensing Types of Economic Activities", "On Patenting Certain Kinds of Entrepreneurial Activities", "On Prices and Pricing", "On Standardization", "On Technical Regulations and Conformity Assessment" and other special legal acts on a specific sphere of regulation (Commercial Code of Ukraine № 436-IV, 2003).

Analysis of regulations of water and sanitation shows that the main methods of state influence on the relations are development and approval of state standards, rules, procedures and rules; development and approval of the methodology for determining the standards of consumption of water and wastewater services, norms of costs and losses of resources used in the field; formation and implementation of state policy in the field; preparation, approval and implementation of state, regional and local programs; realization of state regulation of activity of water supply and sewage enterprises; licensing of economic activity and control over observance of licensing conditions; tariffs establishment for centralized water supply and sewage services; installation for water supply and sewage enterprises of individual technological standards for the use of drinking water; granting permits, etc. (Low of Ukraine on drinking water, water supply and waste water № 2918-III, 2012; Law of Ukraine On State Regulation in the Utilities No 2479-VI, 2010).

The development and approval of state standards is carried out in accordance with the requirements of the Law of Ukraine "On Standardization". The system of standards in domestic water and public water standards include national, international and regional standards that determine methods of research (tests) safety and quality of drinking water.

Development and adoption of standards, methods, procedures and rules of water and sanitation is carried out the procedures and requirements of the Decree of the President of Ukraine dated 03.10.92 № 493/92 "On state registration of normative legal acts of ministries and other bodies of state executive power", Resolution of the Cabinet of Ministers of Ukraine of 28.12.92 № 731 "On Approval of the Regulation on State Registration of Regulatory Acts of Ministries and Other Executive Bodies", Order of the Ministry of Justice of Ukraine dated 12.04.2005 № 34/5 "On improvement of the state registration of legal acts in the Ministry of Justice of Ukraine and revocation of the decision on state registration of legal acts" registered in the Ministry of Justice on April 12, 2005 under № 381/10661. Thus, regulation safety indicators and some indicators of drinking water quality by setting these parameters in state standards for drinking water and sanitary requirements during its production (manufacturing) (Low of Ukraine on Drinking Water, Water Supply and Sanitation № 2918-III, 2012). Standards of water supply and sanitation (drinking water standards, environmental standards for water quality of drinking water sources, technological standards of drinking water specifications in drinking water, drinking water) developed and approved in the manner approved by the Cabinet of Ministers of Ukraine of 25.08.2004 No. 1107.

To assess and ensure the rational use of water in the economic sectors, technological norms of water use are set current technological standards for water use - for the existing level of technologies; promising technological standards for water use - considering advances at the level of advanced world technologies. Technological norms of water use are developed and approved by the relevant central executive authorities, in agreement with the central executive body, which ensures the formation of the state policy of environmental

protection (The Law of Ukraine on the Water Code of Ukraine No. 213/95-VR, 1995; Low of Ukraine on Drinking Water, Water Supply and Sanitation No. 2918-III, 2012). The procedure for determining the procedure for the development and approval of technological standards for the use of drinking water by enterprises providing centralized water supply services (production, transportation and supply of drinking water to consumers) and/or centralized sanitation (removal and/or purification of municipal wastewater and others), approved by the order of Order of the Ministry of Regional Development of Ukraine dated June 25, 2014 № 179, registered in the Ministry of Justice of Ukraine on September 3, 2014 for № 1062/25839. The procedure for the determination of individual technological norms for the use of drinking water to natural monopolies, whose licensing activities are carried out by National Commission on Energy and Municipal Services Government Governance (NCEMSGG), approved by the National Commission On Energy and Municipal Services Government Governance dated April 23, 2015, No. 1305, registered in the Ministry of Justice of Ukraine on May 22, 2015, №522/27037.

The government programs of water and sanitation as part of the formation and the state policy implementation in this area is carried out in accordance with The Law of Ukraine "On State Target Programs" and in the order, approved by the Resolution of the Cabinet of Ministers of Ukraine dated January 31, 2007 No. 106 (Law of Ukraine On State Target Programs, 2004; Resolution of the Cabinet of Ministers of Ukraine on Approval of the State Target Programs Development and Implementation Procedure, 2007). Programs are divided into national programs aimed at solving the problems of the development of the state or a large number of its regions, have a long-term implementation period and are carried out by central and local executive authorities, and other programs aimed at solving individual problems of the development of economy and society, problems of the development of certain branches of the economy and administrative division in need of state support (Law of Ukraine On State Target Programs, 2004).

State regulation of water and sanitation is defined as a set of purposeful forms, methods and areas of influence that are used by public authorities to streamline the system of economic and social relations of water and sanitation, in order to stabilize and adapt the existing socio-political system to changing conditions. The state regulator in the sphere of centralized water supply and sanitation is the national commission that carries out state regulation in the spheres of energy and utilities (No. 2918-III, 2012). The task of state regulation is the implementation of state regulation of enterprises by: 1) balancing interests of economic entities, consumers and the state; 2) ensuring transparency and openness of activities in the markets of natural monopolies in the area of centralized water supply and sanitation; 3) protection of the rights of consumers of goods and services in terms of obtaining goods and services of an adequate quality and sufficiently at economically reasonable prices, as well as promoting their quality improvement and demand satisfaction; 4) formation and provision of forecasting of price and tariff policy in the markets which are

in a state of natural monopoly of centralized water supply and sanitation, promotion of introduction of stimulating methods of regulation of prices; 5) ensuring the self-sustainability of the activities of natural monopolies; 6) ensuring equal opportunities for consumers to access goods (services) in markets that are in a state of natural monopoly; 7) restriction of the influence of subjects of natural monopolies on state policy. The methods of regulatory influence on the activities of enterprises of water supply and sanitation are: 1) licensing of economic activities and control over compliance with licensing conditions; 2) tariff establishment for centralized water supply and sewage services; 3) installation for entities of centralized water supply and sewage, individual technological norms for the use of drinking water; 4) other methods provided by the current legislation of Ukraine (Law of Ukraine On State Regulation in the Utility No 2479-VI, 2010).

The tariff establishment for centralized water supply and sewage services is determined in accordance with regulatory acts, depending on the regulatory authority. The state regulates the activity of 3% of business entities in the area of centralized water supply and sanitation of Ukraine or 74% of the national market of services in this area. Other business entities of centralized water supply and sewage regulation are regulated by local self-government bodies (National Commission on Energy and Municipal Services Government Governance, 2018). The tariffs for centralized water and sanitation in Ukraine are calculated for: - for licensees of the Kyiv city state administration and oblast state administrations in accordance with the Procedure for the tariff formation for heat energy, its production, transportation and supply, services for centralized heating and supply of hot water, approved by the Cabinet of Ministers Ukraine from 01.06.2011 № 869; - for National Commission on Energy and Municipal Services Government Governance licensees in accordance with the Procedure for the tariff formation for centralized water supply and sewage, approved by the National Commission on Energy and Municipal Services Government Governance resolution dated March 10, 2016, No. 302.

Licensing is a method of state regulation of the types of economic activities subject to licensing aimed at ensuring the implementation of a single state policy of licensing, protection of economic and social interests of the state, society and individual consumers (Law of Ukraine No. 222 On the Licensing of Types of Economic Activities -VIII, 2015). In accordance with the Law of Ukraine "On Licensing Types of Economic Activities," the activities of centralized water supply and sanitation, in addition to centralized water and sanitation at unregulated tariffs, are subject to licensing. According to the List of licensing bodies, approved by the Cabinet of Ministers of Ukraine from 05.08.25 till 609, the bodies that exercise licensing in this area are National Commission on Energy and Municipal Services Government Governance, regional approval authority, Kyiv city municipal administration.

The next mean of state influence of water and sanitation is the issuance of various permits, as defined by several relevant laws.

The permit paper is a permit, a conclusion, a decision, an agreement, a certificate, another document in electronic form (the record of the existence of a permit, conclusion, decision, approval, certificate, other document in the Unified State Register of Legal Entities and Individual Entrepreneurs), which permit authority is obliged to give the business entity in case of granting him the right to conduct proceedings certain actions in the conduct of economic activity or types of economic activity and/or without which an entity cannot carry out certain actions in relation to the conduct of economic activity or types of economic activity (Law of Ukraine About the permissive system in the sphere of economic activity №2806-IV, 2005). The list of documents of permissive character of economic activity was approved by the Law of Ukraine of 19.05.2011 №3392-VI. Water and sanitation companies for the implementation of their activities should receive the following permissions, defined in Table 1:

Table 1. The list of permissions in the water and sanitation

Name of permission document	The purview of the Law of Ukraine
Permission for special water use.	Article of a Law No. 48-50, 59 of the Water Code of Ukraine
Permission to emit pollutants into the atmosphere by stationary sources.	Article of a Law No. 11 of the Law of Ukraine "On the Protection of Atmospheric Air"
Permission to start the work of increased danger and the beginning of operation (application) of machines, mechanisms, equipment of high danger.	Article of a Law No. 21 of the Law of Ukraine "On Occupational Safety"

According to the Water Code of Ukraine, the special water use is a water collection from water objects with the use of facilities or technical devices, water use and discharge of pollutants into water bodies, including water collection and discharge of pollutants with return water using channels. The special water consumption is paid and carried out since a permit for special water use. The permission for special water use is issued by the local authorities of the central executive authority, which implements the state policy of water management development. During the implementation of special water use to meet the drinking and household requirements in the order of centralized water supply enterprises, institutions and organizations in charge of domestic water and public water supply, carry out the collection of water directly from water objects in accordance with approved in accordance with the established procedure of projects water intake structures, norms of water quality and permits for special water use (The Law of Ukraine on the Water Code of Ukraine No. 213/95-VR, 1995). The permission for special water use is issued by the local authorities of the State Agency of Water Supply, and in case of use of water of water objects in the exclusion zone and the zone of unconditional (mandatory) resettlement of the territory that was exposed to radioactive contamination as a result of the Chernobyl disaster, the State Agency of Water Management in accordance with the procedure approved by the Cabinet of Ministers of Ukraine of 13.03.2002, No. 321 (Resolution of the Cabinet of Ministers of Ukraine on the Approval of Special Water Use Procedure No. 321, 2002).

The permission for the emission of pollutants into the atmosphere by stationary sources is an official document that gives the right to enterprises, institutions, organizations and entrepreneurs to exploit objects from which air polluting substances or mixtures thereof arrive in the atmosphere, subject to compliance with the established standards permissible emissions and requirements for technological processes in terms of limiting emissions of pollutants within the time limit specified in the permit (Resolution of the Cabinet of Ministers of Ukraine on the approval of the procedure for con ducting and payment of works related to the issuance of permits for emissions of pollutants into the air by stationary sources, accounting of enterprises, institutions, organizations and entrepreneurs, who received the following permits No. 302, 2002). In accordance with the Law of Ukraine "On Air Protection" for ensuring environmental safety, creating a favorable environment for life, preventing the harmful effects of atmospheric air on human health and the environment, the regulation of emissions of the most common and dangerous pollutants is regulated, the list of which is set by the Cabinet of Ministers of Ukraine. The list of pollutants is reviewed by the Cabinet of Ministers of Ukraine at least once in five years at the proposal of the central executive authority, which ensures the formation of state policy of the environmental protection, and the central executive body, which ensures the formation of public health care. According to the submission of the regional administrations, Kyiv, Sevastopol city municipal administrations, Autonomous Republic of Crimea executive authorities on the environmental protection and the central executive body, which implements state policy in the sphere of sanitary and epidemiological well-being of the population, community bodies taking into account the peculiarities of the ecological situation of the region inhabited item may additionally establish a list of pollutants that regulates their emissions in the respective territory.

The emission of pollutants into the air by stationary sources may be carried out after obtaining a permit issued to a business entity whose object belongs to the second or third group, regional administrations, Kyiv, Sevastopol city municipal administrations, Autonomous Republic of Crimea executive authorities on the environmental protection and the central executive body, which implements state policy in the sphere of sanitary and epidemiological well-being of the population. The emission of pollutants into the air by stationary sources may be carried out on the basis of a permit issued to a business entity whose object belongs to the first group, to an economic entity whose object is located on the territory of the exclusion zone, the zone of unconditional (mandatory) resettlement of the territory that was exposed to radioactive contamination as a result of the Chernobyl disaster, the central executive body, which implements the state policy of environmental protection, for approval m with the central executive body, which implements the state policy in the sphere of sanitary and epidemiological well-being of the population. The first group includes objects which are taken for the state record-keeping and have production or technological equipment, on which environmentally sound technologies and management methods should be implemented.

The second group includes objects, which are taken for state record-keeping and do not have production facilities or process equipment, on which environmentally sound technologies and management methods should be implemented. The third group includes objects that do not belong to the first and second groups (Law of Ukraine On the Protection of Atmospheric Air No. 2707-XII, 1992). The procedure for conducting and payment of works related to the issuance of permits for the emission of pollutants into the air by stationary sources, accounting of enterprises, institutions, organizations and citizens - business entities that have received such permissions, is established by the Cabinet of Ministers of Ukraine (Resolution of Cabinet of Ministers of Ukraine On the approval of the procedure for the conduct and payment of works related to the issuance of permits for emissions of pollutants into the air by stationary sources, accounting of enterprises, institutions, organizations and entrepreneurs, who received the following permits №302 , 2002).

Water supply and sanitation enterprises, according to their specifics, belong to objects of high danger - objects in which one or more hazardous substances or categories of substances are used, manufactured, processed, stored, or transported in quantities equal to or exceeding the standard thresholds the masses, as well as other objects as such, which, in accordance with the law, constitute a real threat of an emergency of anthropogenic and natural character (Law of Ukraine on the objects of high hazard № 245-III, 2001). In accordance with the Law of Ukraine "On Occupational Safety and Health", the enterprise (employer) must obtain permission to carry out the work of increased danger and for the operation (use) of machines, machinery, equipment of high danger. (Law of Ukraine On Labor Protection No. 2694-XII, 1992). In accordance with the Procedure for the issuance of permits for the performance of work of increased danger and for the operation (application) of machines, mechanisms, equipment of high danger, approved by the Resolution of the Cabinet of Ministers of Ukraine dated October 26, 2011 No. 1107, the exploitation (application) of machines, mechanisms, equipment of high danger is carried out by the enterprise (employer) on the basis of permission issued by the territorial body of the Ministry of Labor.

As a method of compulsory nature of water supply and sanitation, consideration should be given to prosecution (administrative and criminal) of perpetrators of offenses in this area. When implementing state policy of water supply and sanitation, public authorities should review the principles of state policy, regulatory and influence. These categories are not and should not be something permanent, but rather must change depending on the state and effectiveness of the implementation of state policy. Considering the above, it should be noted that when applying modern methods of influence, many problems arise that are not solved by the state. Among the main problems of tariff policy determine: 1) the economic feasibility of tariffs. The level of covering with actual tariffs of the actual cost of services (excluding the investment component) is on average 60% -70%; 2) the complicated procedure for reviewing and adjusting tariffs. Irregularity of the tariff review. Services

tariffs for public are reviewed less often than the cost of resources increases, the expenses for which occupy the largest share in the structure of the cost of services - electricity and wages, etc. The timely tariff establishment causes a significant discrepancy between prices and tariffs for other components of the cost of water and wastewater services: chemical reagents for disinfection of water and waste water, fuel and lubricants, materials for conducting emergency repair works; 3) the unsettled issue of state compensation for the difference in tariffs. The law provided for the difference in tariffs was offset by the state only until 2016, and late and not in full; 4) inefficiency of implementation of investment programs due to lack of funds; 5) formation of the scheduled cost of services by the regulator on the basis of actual costs of previous periods.

The costs associated with the use of electricity for technological needs are determined without taking into account the norms of specific expenditures of fuel and energy resources, established in accordance with sectoral norms and requirements of legislation, etc. to the problems of state regulation can include:

1) the absence of a state-oriented consumer policy-oriented policy (or formal orientation without respecting the principles of ensuring the availability of water supply and sanitation services, ensuring a high-quality consumer service at a price that allows suppliers to work efficiently);

2) ineffective state regulation policy regarding the protection of interests of water supply and sewage enterprises in comparison with energy companies, which are regulated by one state regulator of National Commission on Energy and Municipal Services Government Governance;

3) uncertainty of the state policy regarding an effective model of water supply and sewage management. Lack of a strategic document for the development of the water supply and sewage sector;

4) the absence of a logical and understandable system of legal regulation of public-private partnership (inconsistency between the laws "On public-private partnership", "On concessions", "On the features of leasing or concession of objects in the areas of heat supply, water supply and sanitation located in communal property").

The problems of legal regulation include the imperfection of the legal framework and the absence of important normative and legal acts. In particular: 1) the absence of the Strategy for the development of the water supply and sewage sector; 2) the non-compliance of the rules of law in the Laws of Ukraine "On Housing and Communal Services" and "On Drinking Water, Drinking Water Supply and Sanitation"; 3) the lack of adequate standards for liability for violation of rules, procedures, norms of water supply and sanitation. The Law of Ukraine "On Drinking Water, Drinking Water Supply and Sanitation" contains formal rules on liability that will not be fulfilled because they do not meet objective requirements; 4) the absence of legal mechanisms for regulating the issue of the impact of other markets on the state of the water supply and sanitation.

In particular, the energy market, the reagent market, the market of acceptance of payments from the consumers of utilities; etc. In addition, among the methods of state influence, the specialized law on domestic water and public water supply and sanitation did not identify such methods as certification of personnel and the quality of services, tax and investment privileges that we believe may be effective.

The list of these problems is not exhaustive, but it reflects the real state of implementation of state policy of water supply and sewage. These methods that the state policy of water supply and sanitation is defined, but not formulated in the framework of a special national strategic document, and most importantly, there is no feedback to the subjects of state regulation on which this policy is directed.

2. The state supervision in of water supply and sanitation

The control of domestic water and public water is carried out in order to determine the conformity of drinking water quality with the state standards. The control is subject to water intended to meet drinking and household requirements at all stages of its production and bringing to consumers, as well as objects of centralized drinking water supply, including wastewater treatment plants, pumping stations, water supply networks, points for the pouring of drinking water (including mobile ones), other objects of non-centralized drinking water supply (Water Supply and Sanitation № 2918-III, 2012). The legislator identified the following types of control of water supply and sanitation: the state, industrial and public control.

According to Article No. 43 of the Law of Ukraine "On Drinking Water and Drinking Water Supply", the state supervision in the sphere of domestic water and public water is divided into three types: 1) the state supervision of water quality in sources of drinking water supply (carried out by authorized central bodies of executive power in accordance with their powers defined by law); 2) the state supervision over the technical state of centralized drinking water supply (carried out by the Council of Ministers of the Autonomous Republic of Crimea, Kyiv and Sevastopol city municipal administration); the state supervision over the safety and quality of drinking water (carried out by local self-government bodies and executive authorities in accordance with the powers established by law).

The state supervision of sanitation (provision of sanitary protection) is divided into types: 1) control compliance with the norms and rules governing the discharge of waste water into water facilities, and the implementation of protective methods to ensure the water quality of the passport of the water object (carried out by the central an executive body that implements state policy of environmental safety); 2) control of the certification of sources of drinking water supply, control of water quality indicators in the control areas of the water facility in the water intake areas, taking into account the requirements of state standards, sanitary norms and rules for sources of drinking water supply and drinking water (carried out by the central executive body, implementing the state policy of water management development); control of the provision of sanitary protection (carried out by legal entities and individuals whose activities affect the state of sources and objects of drinking water

supply and sanitation, by methods of the implementation of methods for the protection of water from pollution, clogging and exhaustion and ensuring the safety of production and supply of drinking water at the expense of own funds) In addition, local self-government bodies control and determine the mechanism for monitoring wastewater discharges (Low of Ukraine on Drinking Water, Water Supply and Sanitation № 2918-III, 2012).

A variety of the state supervision in the investigated area is the control over the implementation of investment programs of centralized water supply and sanitation. The control over the implementation of investment programs by economic entities that, in accordance with the procedure established by law, received licenses for the right to conduct economic activities for centralized water supply and sanitation, is carried out by the National Commission on Energy and Municipal Services Government Governance, Autonomous Republic of Crimea executive authorities, regional administrations, Kyiv, Sevastopol city municipal administrations. The main criteria for monitoring the implementation of an investment program are: the state of implementation of the investment program; the targeted use of the funds provided for the implementation of the investment program; compliance with the actual amounts of funds used to implement the investment program, planned; actual performance indicators of investment program Methods (Low of Ukraine on Drinking Water, Water Supply and Sanitation № 2918-III, 2012; Resolution of the Cabinet of Ministers of Ukraine. Some issues of the investment programs implementation of heat supply, centralized water supply and sanitation No. 552, 2014).

The general legal and organizational principles, as well as the main principles and procedure for the implementation of the state supervision (oversight) of economic activity, the authority of the regulator (oversight) bodies, their officials and the rights, responsibilities and responsibilities of economic entities during the implementation of the state supervision (oversight) is defined by the Law of Ukraine "On the Main Principles of State Supervision (Oversight) in the Area of Commercial Activity" (Law of Ukraine No. 877-V, 2007).

According to this Law, the state supervision (oversight) is the activity of authorized central bodies of executive bodies, regional, municipal administrations, Autonomous Republic of Crimea executive authority, local self-government bodies within the powers provided for by law, in relation to detection and prevention violation of the requirements of legislation by business entities and ensuring the interests of society, in particular the proper quality of products, works and services, the permissible level of danger for population and the environment. Taking into account that the water supply and sewage companies operate on the basis of a license, the licensing authorities in compliance with the procedure established by this Law control the compliance of licensees with the requirements of licensing conditions, taking into account the specifics defined by the Law of Ukraine "On Licensing Types of Economic Activities". The same applies to the control of the bodies of the State Fiscal Service, labor protection, etc.

The state supervision (oversight) is carried out in accordance with the principles: priority of safety in matters of life and health of a person, functioning and development of society, environment of living and life before any other interests and goals of economic activity; control and accountability of the state supervision body (oversight) to the relevant state authorities; equality of rights and legitimate interests of all economic entities; guaranteeing the rights and legitimate interests of each economic entity; objectivity and impartiality of the state supervision (oversight), the inadmissibility of carrying out inspections of economic entities by anonymous and other groundless applications, as well as inevitability of the responsibility of individuals for filing such applications; the exercise of the state supervision (oversight) only if there are grounds and in the manner prescribed by law; openness, transparency, planning and systematic the state supervision (oversight); the inadmissibility of duplication of authority of the regulator (oversight) authorities and the inadmissibility of the implementation of the state supervision (oversight) Methods by various state supervision (oversight) bodies on the same issue; non-interference with the body of the state supervision (oversight) in the activities of the entity, if it is carried out within the limits of the law; the responsibility of the state supervision body (oversight) and its officials for the damage caused to the business entity as a result of violation of the requirements of the legislation, violation of the rights and legitimate interests of the entity; compliance with the conditions of international treaties of Ukraine; independence of state supervision bodies (oversight) from political parties and any other associations of citizens; availability of one state supervisory authority (oversight) within the central executive body; the presumption of the legality of an entity's business in the event that the rule of law or other regulatory act issued on the basis of the law, or if the rules of various laws or various normative legal acts allow ambiguous (plural) interpretation of the rights and obligations of the economic entity and/or authority of the regulator (oversight); orientation of the state supervision (oversight) on prevention of an offense in the sphere of economic activity; preventing the establishment of targets or any other planning for bringing business entities to liability and imposing sanctions on them; implementation of state supervision (oversight) on the basis of the principle of risk assessment and expediency. Methods of the state supervision (oversight) - planned and unscheduled Methods, which are carried out in the form of inspections, audits, surveys, surveys and other forms prescribed by law (Law of Ukraine On the state supervision (oversight) of economic activity No. 877-V, 2007).

The state supervision (oversight) of water supply and sanitation is based on the principle of risk assessment and expediency. Depending on the degree of risk, the state supervision body (oversight) determines the frequency of planned state supervision (oversight).

The criteria for assessing the degree of risk of conducting business activities for centralized water supply and sanitation that are subject to National Commission on Energy and Municipal Services Government Governance licensing and determining the frequency

of planned state supervision measures are as follows: volume of provision of centralized water supply services during the year preceding the year in which the annual one is formed plan of state supervision measures; the volume of provision of services for centralized sanitation during the year preceding the year in which the annual plan of measures of state supervision is formed; number of violations detected during state supervision measures during the last five years before the beginning of the planning period; the number of established violations detected during state supervision measures during the last five years before the start of the planning period, which resulted in the tariffs adjustment; an indicator of the average duration of breaks in supply with the fault of the licensee and as a result of plans without warning consumers of breaks for the year preceding the year of the formation of the plan of measures of state supervision, minutes; an indicator of the average frequency of breaks in water supply due to the fault of the licensee and as a result of planned, without warning consumers, breaks for the year preceding the year of the formation of the plan of measures of state supervision, units; the number of subscribers by the end of the year preceding the year in which the annual plan of state supervision measures is formed (Resolution of the Cabinet of Ministers of Ukraine on the approval of the criteria for assessing the degree of risk from conducting business activities of electricity, activities for the transportation of oil, oil products by main pipelines, economic activity in the market of natural gas, for the production of thermal energy, thermal energy transportation by main and local (distribution) heat networks and heat supply, centralized water supply and sanitation, household waste treatment and disposal, subject to licensing by the National Commission for State Regulation in the energy and utilities, and determined the state supervision of the state of health №1106, 2008).

For other water supply and sewage enterprises (whose activities are not regulated by the National Commission on Energy and Municipal Services Government Governance), the risk criteria are not approved.

Supervision, monitoring and accounting are carried out such close activities along with the control. Although the legislator sometimes identifies the terms "control" and "supervision", for example, as in the Law of Ukraine "On the Basic Principles of State Supervision (oversight) in the Sphere of Economic Activity," the researchers distinguish them as separate types. In particular, the most characteristic features of supervision include: supervision by state authorities on objects that they are not organizationally subordinated, while control, as a rule, relates to organizationally subordinated entities; in the process of supervision, measures of administrative influence are used, whereas disciplinary measures may be used as a result of control; administrative supervision is carried out in compliance with the relevant subjects of special rules and regulations, while control - over the activities of controlled objects in whole or in its separate aspects. Monitoring is defined as a passive form of control. The application of monitoring is associated with tracking the situation or process of management activity, the impact of management decisions, legal acts on social relations.

At the same time, methods of observation and analysis are used (Bakumenko, 2002, pp. 129-130; Averianov, 2004, p.349-350; Kovbasiuk, Vashchenko & Surmin, 2014, p.72). Accounting in the general sense is an appropriately organized system of collection, accumulation, processing, grouping, generalization and registration (fixation) of the necessary information or its aggregate data, reflecting quantitative or qualitative characteristics of events, phenomena, facts, processes, objects, etc. (Bakumenko, 2002). The function of accounting is a universal management function implemented through documentary fixation, primarily the material and financial state of the object of management, resources of the object of management, material assets, cash, debt obligations, etc. (Kovbasiuk, Vashchenko & Surmin, 2014).

According to Article No. 39 of the Law of Ukraine "On Drinking Water and Drinking Water Supply", state monitoring of domestic water and public water is conducted for the purpose of collecting, processing, storing and analyzing information on the quality of drinking water, the status of objects of centralized drinking water supply, forecasting its changes, and the development of scientifically substantiated recommendations for making relevant decisions in this area is conducted by state monitoring.

Depending on the subject of the state monitoring of domestic water and public water supply is divided into types: 1) regarding the quality status of water objects in the water intakes for centralized drinking water supply by radiological and chemical indicators (carried out by the central executive authority, which implements the state policy of water management development); 2) compliance with the sanitary norms of chemical, bacteriological, radiological indicators of water objects intended for drinking water supply and drinking water supply systems (central executive authority implementing public health policy); 3) regarding the quality of drinking water after water treatment facilities according to chemical and bacteriological indicators, as well as the technical state of objects of centralized drinking water supply (central executive authority, which implements state policy in the sphere of housing and communal services); 4) on prediction of changes in the qualitative and quantitative state of surface and underground sources of centralized drinking water supply at water intake areas (central executive authority implementing state policy of environmental safety). The procedure for conducting state monitoring in the area of domestic water and public water supply should be approved by the Cabinet of Ministers of Ukraine. Therefore, there are no normative documents on the monitoring mechanism, indicators, indicators, etc. (Low of Ukraine on Drinking Water, Water Supply and Sanitation No. 2918-III, 2012).

Regarding the monitoring effectiveness in forecasting changes in the qualitative and quantitative state of surface and underground sources of centralized drinking water supply at water intakes (monitoring of protected drinking water zones), one should pay attention to the position of profile scientists (Shestopalov, Liuta, 2016). In Ukraine, all enterprises water users who have special permits for the use of subsoil, fulfill the special conditions of these

documents, operate in accordance with permits for special water use and technological schemes for the development of deposits, in which the procedure for conducting observations of quantitative and qualitative indicators of water is determined. In particular, a full chemical analysis of water should be carried out annually, reduced - quarterly. Most water users fulfill these requirements and analyze water in accredited laboratories. The received information in a very shorter form (form 7-grams) is submitted annually to the State Service of Geology and Subsoil of Ukraine, where it is accumulating in SINP "Geoinform", but it almost does not receive proper scientific processing and analysis. The results of analyzes are kept by water users. Thus, nowadays the information of water users is incomparably more complete and more reliable compared with the extremely limited data coming from observational wells of the state monitoring system and almost not analyzed (Shestopalov, Liuta, 2016).

Another type of state monitoring of water supply and sanitation in accordance with the Law of Ukraine " On State Regulation in the Sphere of Communal Services" is carried out by National Commission on Energy and Municipal Services Government Governance. Constant monitoring and analysis of the situation in the markets in the state of natural monopolies in the area of heat supply and centralized water supply and wastewater disposal, disposal of household waste and forecasting the development of such markets is carried out with a view to: 1) improving the efficiency of markets through identifying and solving problems, related to their structure; 2) identifying, within the competence of the National Commission on Energy and Municipal Services Government Governance, the practices that lead to distortion, distortion or restriction of competition in energy and utilities markets; 3) informing the public on the state of functioning of the markets in the fields of energy and utilities.

Monitoring is carried out by: 1) obtaining actual and reliable information on functioning of the markets in the fields of energy and utilities; 2) organization and implementation of systematic monitoring, evaluation, analysis (including modeling and forecasting, where applicable) of the main indicators / indicators of monitoring, determined by the Procedure of monitoring and current legislation, based on the primary data;) monitoring the state of functioning and trends in the development of markets in energy and utilities, in particular regarding the structure of markets (concentration, vertical integration) and the behavior of market participants; 4) determination of the efficiency of functioning of markets in the sectors of energy and utilities; 5) monitoring of compliance by entities operating in the sectors of energy and utilities with their obligations in accordance with applicable law (Resolution of the National Commission on Energy and Municipal Services Government Governance on the approval of the Procedure for Implementation by the National Commission on Energy and Municipal Services Government Governance, Monitoring of Markets in the Spheres of Energy and Utilities No. 1120, 2017).

The monitoring procedure identified the main indicators / indicators of the water supply and sewage (as a monitoring object): the number of violations regarding the publication of information provided by the legislation, in particular on the official website; the number of consumer complaints on the topic of appeals; collective agreement level for centralized water supply and sanitation according to consumer categories; cost coverage level (%); number of facts of transfer of income / expenses from conducting economic activity for centralized water supply and sewage disposal for financial support of other activities within the limits of one economic entity; Duration and frequency of breaks in water supply; pressure test verification; indicators of drinking water quality; observance of the terms of service rendered by the legislation; number of violations of legislation by the National Commission on Energy and Municipal Services Government Governance licensee; types of violations of the legislation by the National Commission on Energy and Municipal Services Government Governance licensee; number of violations of licensing conditions by the National Commission on Energy and Municipal Services Government Governance licensee; Types of violations of licensing conditions by the National Commission on Energy and Municipal Services Government Governance licensee (Resolution of National Commission on Energy and Municipal Services Government Governance, Approval of the Procedure for Implementation by the National Commission on Energy and Municipal Services Government Governance, Monitoring of Markets in the Spheres of Energy and Utilities No. 1120, 2017).

According to Articles No. 40-41 of the Law of Ukraine "On Drinking Water and Drinking Water Supply" in the sphere of domestic water and public water supply, state and commercial accounting is carried out. The task of state accounting is systematization of data on: sources of drinking water supply; quantity and quality of drinking water; volumes of use of drinking water and discharge of sewage; drinking water consumers; drinking water supply companies. On the basis of data systematization, state statistical reports are compiled according to the forms approved by the central executive body, which ensures the formation of the state policy of statistics, upon submission of the central executive body, which ensures the formation of the state policy in the sphere of housing and communal services. Commercial accounting for centralized drinking water supply services is provided by water supply and sewage companies, which also permanently retain primary data and provide them free of charge to the central executive body, which implements state policy in the sphere of housing and communal services, ministries and other central executive authorities within their authority, defined by the laws of Ukraine (Low of Ukraine On Drinking Water, Water Supply and Sanitation No. 2918-III, 2012).

Another type of monitoring of domestic water and public water supply is the production control carried out by drinking water supply companies. In the event of a threat of an emergency of a man-made or natural nature associated with harmful consequences for sources or systems of drinking water supply, or in such a situation, a special production

control of drinking water quality indicators is carried out, which in each case are additionally determined by the central executive body , which forms and ensures implementation of the state policy of health care (Low of Ukraine on Drinking Water, Water Supply and Sanitation No. 2918-III, 2012). Production control is carried out in accordance with the State sanitary norms and rules "Hygienic requirements for drinking water intended for human consumption" (State sanitary norms and rules 2.2.4-171-10). Production control is carried out in accordance with a work program that is part of a technological regulation or other document describing the process of production of drinking water, which should include: a list of indicators that require control and the procedure for its implementation, locations and timetables for sampling water for laboratory studies (Order of the Ministry of Health of Ukraine On approval of the State sanitary norms and rules «Hygienic requirements for drinking water for human consumption» № 400, 2010).

Production control of safety and quality of drinking water is carried out according to the programs of full, reduced and reduced periodic inspection taking into account the requirements of the Sanitary norms depending on the enterprise drinking water supply. Full control of the safety and quality of drinking water is necessarily carried out when commissioning newly built water pipes, technological lines, after their reconstruction, overhaul and refurbishment, and in the event of a change in the technology of water treatment, etc. Production control at the enterprises of the centralized drinking water supply of the population is as follows. Production control of safety and quality of water must be carried out at the water intake, before entering the water supply network, as well as in the distribution network. The enterprises of drinking water supply are obliged to provide to the state sanitary-and-epidemiological service of the corresponding administrative territory information about the results of the production control of the safety and quality of drinking water, pollution of drinking water sources (Order of the Ministry of Health of Ukraine On Approval of the State sanitary norms and rules" Hygienic requirements for drinking water intended for human consumption »No.400, 2010).

Public monitoring of domestic water and public water is carried out by public inspectors of environmental protection in accordance with the Law of Ukraine "On Environmental Protection". The objects of public control in the sphere of domestic water and public water supply are: the quality of water in sources of drinking water supply outside the first zone of the sanitary protection zone; quality of drinking water, norms of its consumption and justification of tariffs for centralized water supply and sanitation services; draft laws and other normative legal acts in this area; provision of population with necessary volumes of drinking water; mode of water supply to consumers. Public control is carried out by: obtaining from the bodies of executive power, bodies of local self-government, enterprises, institutions, organizations full, reliable, timely information on the quality of water in the sources of drinking water supply, quality of drinking water, volumes of its implementation and regimes of filing, on the procedure in accordance with the established

procedure. calculation of tariffs for centralized water supply and sanitation services; participation of representatives of the public in inspections carried out by executive authorities, observing the established regime of stay on the territory of drinking water supply facilities; submission to the court of claims for damages caused by violation of the legislation in the sphere of domestic water and public water supply (Low Water Supply and Sanitation No. 2918-III, 2012).

It should be noted that public environmental inspectors carry out their activities in accordance with the Regulations on public environmental inspectors, which do not define the scope of water supply and sewage as a sphere of public control, and there is no reference to a profile law. The work of public inspectors is organized by the State Inspection of Ukraine and its territorial bodies. According to the Regulations, public inspectors have the right: together with employees of the State Inspection, other state bodies supervising the protection, rational use and reproduction of natural resources, bodies of state executive power and local self-government, participate in carrying out inspections of compliance with enterprises, institutions, organizations all forms of ownership and citizens of the requirements of environmental legislation, norms of environmental safety of protection, rational use and reproduction of resources; by sending the body of the State Inspection, which appointed a public inspector, to conduct raids and inspections and to draw up acts of inspections; to draw up protocols on administrative violations in detecting violations of environmental legislation, the responsibility for which is provided for in the Code of Ukraine on Administrative Offenses (CUAO), and submit them to the appropriate body of the State Inspection to bring the perpetrators to justice, etc. However, Code of Ukraine on Administrative Offenses does not provide for liability for violations of water supply and sanitation (Order of the Ministry of Ecology and Natural Resources of Ukraine On approval of the Regulations on public environmental inspectors № 88b 2002). Therefore, public control in the sphere of water supply and wastewater, to our opinion, is more a formal control element than effective. The society does not have access to all necessary information of water supply and sanitation to influence the formation and implementation of state policy and management decisions.

Thus, the types of control (state, production, public control, monitoring, accounting), the subjects of control and their powers, the purpose of control, forms and methods of control activities form a modern system of control of water supply and sanitation. An integral part of the control system should be the relationship between the elements, the feedback mechanism with the information on the achievement of results, which should help to prevent problems and correct the actions to avoid negative consequences, the correct organization of information exchange. Since control, monitoring and accounting are carried out not for the purpose of accumulation of information, but for its analysis, processing, and correct use. In addition, the system-forming factor should be the final result of the functioning of the control system in general, aimed at safe and high-quality water supply.

Conclusion

State policy of water supply and sanitation is based on the principle of state administration and regulation of relations in the area of drinking water, drinking water supply and sanitation. Thus, the state establishes the standard rules of conduct, makes obligatory execution of the decision by the subjects of the sphere of water supply and sanitation and ensures their compliance with their ability of state coercion as an integral part of a phenomenon such as state power. Public administration in the investigated sphere is considered as a certain type of activity of state bodies for the purpose of organizing and managing influence on the subjects of the sphere of water supply and sewage by methods of the use of appropriate powers. And state regulation of the sphere creates conditions for the activity of state authorities, local governments, enterprises of water supply and sanitation and consumers (subjects and objects of state management of the sphere) in the necessary direction of development of the water supply and sewage system. State regulation of water supply and wastewater is implemented by applying methods of direct influence on objects of state administration, which are the expression of deliberate use by the state of legislative acts.

At the same time, the activities of state bodies (tasks, functions, powers, forms and methods) are aimed at ensuring compliance with legislative acts in this area. This provision of legality in the field provides for various types of control activities by public authorities, organizations and institutions. However, the current system of monitoring the compliance with the requirements of the legislation in the area of domestic water and public water supply is imperfect. Absence of a supervisory authority in the sphere of communal services (of water supply and sanitation), lack of mechanisms for prosecuting offenders in the area, penalties, mutual liability system of water supply and sewage companies and consumers, inadequate level of information exchange, inadequate level of feedback between sub The system of control leads to the ineffectiveness of the control system, to the ignoring and non-acceptance of legal acts in the field, deformation of the rule of law society. The analysis of elements of the modern control system of water supply and wastewater showed a lack of a unified approach to the implementation of control functions.

The Law of Ukraine "On Drinking Water, Drinking Water Supply" does not specify specific bodies of state power, which must carry out state supervision, only contain supplementary norms of declarative character. In addition, control functions are duplicated by central executive authorities, local government bodies. The Ministry of Regional Development, the Ministry of Environmental Protection, the Ministry of Health, the State Water Management, National Commission on Energy and Municipal Services Government Governance, the State Inspection, and local self-government bodies carry out the powers of state supervision (oversight) of water supply and sanitation. There are no norms and mechanisms of responsibility in the sphere of water supply and sanitation for both consumers and water supply and sewage companies.

The state policy of water supply and wastewater does not ensure full access of Ukrainian citizens to information on the quality of drinking water, drinking water supply and sanitation, since annual disclosure of such information to the Ministry of Regional Development occurs with an annual (or even 2-3 years late). There is no mechanism for monitoring of water supply and wastewater, indicators for such monitoring and access to analytical monitoring data. The formality of public control of water supply and water sanitation leads to ignoring the society in shaping state policy, ensuring socio-economic indicators of the industry.

The solution of these problems lies in the revision of the state policy in the field of water supply and wastewater, the formation of a strategy for the development of the industry, the establishment of an effective system for preventing offenses in the water supply and wastewater sector, monitoring the state of the water supply and sewage system, involving the public in the control of the sector and the establishment in the system of the Ministry of Regional Development, Construction and Housing and Communal Services (as the profile ministry) of the state control body for communal services with the definition of relevant norms regarding offenses and liability for them in the Code of Ukraine on Administrative Offenses and the Criminal Code of Ukraine.

References.

Averianov V.B. (2004). *Administrative Law of Ukraine* (Vols. 1-2). Kyiv: Yuryd. dumka [in Ukrainian].

Bakumenko V.D. & Kniaziev V.M (2002). *Public administration: dictionary-directory*. Kyiv: Vyd-vo NADU [in Ukrainian].

Commercial Code of Ukraine. (2003, January 16). Retrieved from: https://zakon.rada.gov.ua/laws/-show/436-15 [in Ukrainian].

Kovbasiuk Yu., Vashchenko K. & Surmin Yu. (2014). *State policy.* Kyiv: NADU [in Ukrainian].

Law of Ukraine About licensing of types of economic activity № 222-VIII. (2015, March 2). Retrieved from: https://zakon.rada.gov.ua/laws/show/222-19 [in Ukrainian].

Law of Ukraine About the basic principles of state supervision (control) in the field of economic activity № 877-V. (2007). Retrieved from: https://zakon.rada.gov.ua [in Ukrainian].

Law of Ukraine About the permissive system in the sphere of economic activity № 2806-IV. (2005, September 6). Retrieved from: https://zakon.rada.gov.ua/laws/show/2806-15 [in Ukrainian].

Law of Ukraine on Drinking water, water supply and wastewater № 2918-III. (2012, January 10). Retrieved from: http://zakon3.rada.gov.ua/laws/-show/2918-14 [in Ukrainian].

Law of Ukraine On labor protection №2694-XII. (1992, October 14). Retrieved from: https://zakon.rada.gov.ua/-laws/show/2694-12 [in Ukrainian].

Law of Ukraine On objects of high danger №2245-III. (2001, January 18). Retrieved from: https://zakon.rada.gov.ua/laws/show/2245-14 [in Ukrainian].

Law of Ukraine On state regulation in the sphere of utilities № 2479-VI. (2010, July 9). Retrieved from: http://zakon3.rada.gov.ua/laws/show/2479-17 [in Ukrainian].

Law of Ukraine On state target programs №1621-IV. (2004, March 18). Retrieved from: https://zakon.rada.gov.ua/laws/show/1621-15 [in Ukrainian].

Law of Ukraine On the Protection of the Atmospheric Air №2707-XII. (1992, October 16). Retrieved from: https://zakon.rada.gov.ua/laws/show/2707-12 [in Ukrainian].

Order of the Ministry of Ecology and Natural Resources of Ukraine №88 (2002, Fabruary 27). Retrieved from: https://zakon.rada.gov.ua [in Ukrainian].

Order of the Ministry of Health of Ukraine №400 (2010, May 12). Retrieved from: https://zakon.rada.gov.ua [in Ukrainian].

Report on the results of NKREKP activities in 2018. Retrieved from: http://www.nerc.gov.ua/?id=39678 [in Ukrainian].

Resolution of Cabinet of Ministers of Ukraine №321 (2002, March 13). Retrieved from: https://zakon.rada.gov.ua [in Ukrainian].

Resolution of Cabinet of Ministers of Ukraine №106 (2007, January 31). Retrieved from: https://zakon.rada.gov.ua [in Ukrainian].

Resolution of Cabinet of Ministers of Ukraine №302 (2002, March 13). Retrieved from: https://zakon.rada.gov.ua [in Ukrainian].

Resolution of NKERKP Approval of the Procedure for Implementation by the National Commission for State Regulation in the Spheres of Energy and Utilities, Monitoring of Markets in the Spheres of Energy and Utilities №1120 (2017, September 14). Retrieved from: https://zakon.rada.gov.ua/rada/show/v1120874-17 [in Ukrainian].

Resolution of the Cabinet of Ministers of Ukraine №1106 (2018, November 28). Retrieved from: https://zakon.rada.gov.ua [in Ukrainian].

Resolution of the Cabinet of Ministers of Ukraine №552 (2014, October 1). Retrieved from: https://zakon.rada.gov.ua [in Ukrainian].

Shestopalov V. M. & Liuta N.H. (2016). The state and ways of reforming the state system of groundwater monitoring, taking into account international experience and requirements of the EU Water Framework Directive. *Mineral Resources of Ukraine*, 2, 3-7. [in Ukrainian].

Smolyn H.V. (2012). *State regulation of economic activity: course of lectures*. Lviv: Lvivskyi derzhavnyi universytet vnutrishnikh sprav [in Ukrainian].

Water Code of Ukraine. (1995). Retrieved from: http://zakon.rada.gov.ua [in Ukrainian].

Oksana Davydova
Doctor of Economics, Associate Professor,
Kharkov State University of Food Technology and Trade,
orcid.org/0000-0003-3045-9464
Natalia Balatska
Ph.D. in Technical, Associate Professor,
Kharkov State University of Food Technology and Trade,
orcid.org/0000-0003-3940-1568
Kseniia Kalienik
Ph.D. in Economics,
Kharkov State University of Food Technology and Trade,
Kharkov, Ukraine
orcid.org/0000-0002-1219-2404

THEORETICAL AND METHODOLOGICAL ASPECTS OF HOSPITALITY INDUSTRY ENTERPRISES` SERVICE QUALITY MANAGEMENT

Abstract. *The quality of service is considered as an important component of the hospitality industry. The trend of expanding the tertiary sector is associated with an increase in the importance of providing services to people. It is proved the indispensible link between the notion of the quality of goods and services and their value. Consumer satisfaction depends on product value and its price. It is established that the enterprise image plays a key role in the consumer choice of a hotel. The application of the technology of management of all quality improving processes (the system of Total Quality Management – TQM) is proposed. The methods, techniques, and measures of realization of the TQM conception at hospitality industry enterprises are presented. The most important principles of quality achievement in the hospitality industry underlying the concept of TQM are revealed. It is proposed the "Six Sigma" program introduction into hospitality industry enterprises. The analysis of the domestic enterprises` activity in the Kharkov hospitality market is carried out. It is established the fact that demand for hotel and restaurant services has decreased. The factors resulting in reduced demand for such services are identified through the use of the fishbone causation diagram. The directions and measures which must be foreseen by hospitality industry enterprise management to ensure the required level of service quality are determined. It has been proved that service certification and the improvement of standardization enable to ensure the target-driven improvement of the quality of services, their competitiveness in the world and national markets.*

JEL Classification: L15, L53

Introduction.

One of the main socio-economic tasks that have to be addressed in the modern Ukrainian market is the problem of products and services of low quality. Such a problem arises from the traditional country`s quality assurance inferiority, as well as a slow process of domestic enterprises` adaptation to the market and global competition. Today, Ukrainian enterprises do not always adhere to international quality standards in manufacturing and the provision of services. Not many managers at domestic enterprises are aware of the fact that without compliance with certain standards it will be extremely difficult for their companies to enter the world market and corner a certain segment of the market.

1. Impact on economic security of enterprises in the context of socio-humanitarian components

In Ukrainian history, the quality problem intensified even in Soviet times. At enterprises, there was a plan expressed in output per shift, in manufactured goods per hour, etc. Enterprise administration was usually interested in manufacturing more products regardless of their quality. The basic goods producers` conception in the Soviet times was the concept of "Execution Quality – at minimum cost for the supplier".

Manufacturers have not always taken into account possible changes in consumer demand for the planned period, both for the range of products and for their quality. This approach to production led to the accumulation of goods at warehouses that were not in demand.

A similar situation took place at hospitality industry enterprises. The lack of staff`s motivation to provide consumers with quality services, as well as the lack of competition in the hospitality market had led to an extremely low level of service. However, times change, and in modern conditions when Ukraine has taken the course of pro-European development, there is an urgent need to ensure high quality of products and services provided by hospitality industry enterprises.

It can be distinguished several periods in the development of product quality approaches:

– the 1920s – 1950s – product quality is understood as compliance with the requirements of standards, and the main methods for its achievement are control methods (the focus on technical and legal aspects);

– the 1950s – 1970s – product quality is associated with satisfaction of consumer needs according to the corresponding parameters (orientation to economic and legal aspects);

– the 1970s – 1980s – quality is treated as complete satisfaction of needs not only from the point of view of improving the quality level but also in terms of lowering price parameters (focusing on economic aspects);

– the 1980s – 1990s - quality implies not only a total satisfaction of consumers' needs but also orientation to their latent (hidden) requirements that are connected with their expectations and find reflection in pioneering products of a competitive quality (orientation to economic and social aspects);

– the 1990s – our times – quality includes not only the producer or supplier`s perception of the consumer's needs but also consumers` awareness of the degree to which their demands are fulfilled. In turn, the demand is defined as a need or expectation (focusing on economic and social aspects).

These approaches have been directly reflected in the definitions adopted in various versions of ISO 9000 international standards that set out the requirements for quality management systems at enterprises.

Given the development of market relations, the former model of personnel management has turned out to be completely ineffective. There was a need for a rational change in the old one or the formation of a new personnel management model focused on quality management. In this regard, Ukrainian managerial personnel began to improve their qualification in various quality management courses participating in international programs, and actively exchanging experience in seminars and workshops. However, the management personnel training did not always allow increasing the efficiency of hospitality industry enterprises. This was due to the fact that the existing courses, programs, seminars, workshops either didn't pay due attention to human resource management, or management training was insufficient and required the training of all the staff employed at a particular hospitality industry enterprise.

It has been accumulated considerable experience of the importance of personnel in the hospitality industry in the world science and practice proving that without mastering modern methods of personnel management it is impossible to become conversant with international quality standards and, in particular, the implementation of ISO 9000 international standard (Bezruchenkov, 2015; Hakova, 2014; Levytska, 2014). The lack of this standard understanding is one of the main obstacles to the implementation of international quality standards in Ukraine.

Our country has gained considerable experience in the study of quality management topics, and there are a large number of research papers on personnel management issues. However, there is no comprehensive analysis of personnel management in the hospitality industry as the most important factor in ensuring the quality of service provision, and the systematic approach to the research problem. One of the main social barriers to the implementation of effective quality management conceptions in Ukraine is the lack of attention to human resources.

Quality as an economic category is a set of product features that determine the extent of its ability to meet people`s needs in accordance with the intended purpose (Davydova, 2018, p. 11). The quality of the hospitality product implies its properties and features that cause a sense of customer satisfaction in the use of hospitality industry services or the lack of drawbacks improving consumer satisfaction. The quality of service is considered an important component of the hospitality industry.

The trend of expanding the tertiary sector is associated with an increase in the importance of providing services to a population. Therefore, the quality of services for the hospitality industry is becoming increasingly important from the perspective of "the focus on the consumer". The service is closer to the consumer than the product. It is attributed to the fact that the service is manifested at the time of its provision, and manufacturing is isolated from the consumer. The product quality is perceived, first of all, through the quality of service when it is provided. At the moment when a service is received, the expected outcome is compared with the real (received) services.

It is necessary to pay attention to the fact that there is an indispensible connection between the concept of the quality of products and services and their value. Let's consider the value formation of hospitality industry products or services.

For the consumer, the value of a product or service (v) consists of a set of parameters indicating their quality and values expected by the consumer and satisfying their needs and wants. Of course, consumer decision making in terms of whether to make a purchase or not, in addition to product quality, can be affected by the following factors: confidence in a manufacturer or supplier of products or services; confidence in the quality of products on the basis of information (advertising) coming from a manufacturer or supplier; information received from other consumers of this product; consumer`s own experience of using such products.

The final decision on product purchase or buying services will be made by the consumer taking into account their value (v), only when their actual cost (c) corresponds to the expected expenses on their acquisition and subsequent use, consumption or operation, etc. (Hludkin, Hurov, 2001; Davydova, 2018).

The views of the manufacturer or supplier and the consumer on the cost (c) of valuable products (v) are different and depend on: manufacturer`s costs on the provision of consumers with the necessary quality, that is, on the actual product cost for the manufacturer;consumer`s costs, that is, on the actual product cost for the consumer in contrast to his expected costs of product purchase.

For the manufacturer or service provider, the expected cost is comprised of the profit, personnel costs, material and overhead costs.

For the consumer, the expected value consists of the price of the valuable (v) (from the consumer's point of view, properly manufactured or provided), zero-defect (well-manufactured or provided) products made by the manufacturer or supplier for the first time (without alterations and corrections).

Consumers will use the services of hospitality industry enterprises if they are satisfied with their value (v) (the need for their receiving and the combination of the proposed quality parameters) and cost (c). Enterprises that do not meet the needs of consumers either according to the value (v) or the cost (c) lose their customers and their market share very quickly to more professional competitors who better understand and take into account consumers` needs. The higher the level of consumer satisfaction, the greater business opportunities.

Consequently, consumer satisfaction (cs) depends on the product value (v) and cost (c) and can be expressed in the form of the ratio (Hludkin, Hurov, 2001):

$$cs = \frac{v}{s} \quad (1)$$

In this case, the situation can develop in three directions:

1) in case v = c; cs = 1, there is a neutral situation in which the expectations of consumers are met, the hospitality industry enterprise has defrayed its costs and the planned profit is received.

2) if v > c; cs > 1, an ambiguous situation arises. The consumer is satisfied, and the company is interested in obtaining more profit by increasing the price of their services. In this case, the hospitality business would satisfy the ratio $c \geq v$.

3) in case v < c; cs< 1 the consumer is completely dissatisfied and in most cases they won't opt for staying at this hotel. And as a result, the enterprise begins to lose previously attracted consumers.

In the consumer choice of a hotel, the enterprise image is of great significance and can be a decisive factor in its selection. The enterprise image, from the consumer's perspective of the value of services, can be: objective when the high quality of services has been offered by the hospitality industry enterprise for a long time and is confirmed by all consumers; it is generally recognized; subjective based on a particular consumer`s past experience, their habits, personal conviction regarding the level of service offered by the hotel.

Taking into account the image of the hospitality industry enterprise the formula (2) to determine consumer satisfaction will be the following:

$$cs = K_i \frac{v}{s} \quad (2)$$

where K_i is the hotel image coefficient.

The K_i coefficient is determined by conducting a consumer survey and is calculated using the rank correlation method. Given the great influence on (cs) of the image coefficient, the enterprise`s responsibility for the quality of services that it provides and meeting consumers` expectations increases.

The complexity of any of the above-listed situations is that enterprise managers become aware of their certain weaknesses only when revealed by those consumers who share their experience in surveys, questionnaires, etc.

Service evaluation by consumers is an ultimate measure of its quality. The consumer`s reaction may be immediate, may appear after a certain time or retrospectively. As a rule, when assessing the service provided, the consumer is guided by his own subjective opinion. Consumers do not always inform their service provider about the evaluation of the service received on their own initiative. In case of dissatisfaction with the services, consumers often stop using or buying them without informing the enterprise, that is, not allowing the latter to take appropriate corrective actions. The feedback on consumer satisfaction formed on the basis of the absence of claims can lead to wrong conclusions.

The existing situation can be shown in the figure making it is obvious that the enterprise management sees only the tip of the iceberg: only four in a hundred of dissatisfied consumers will make a complaint, an offer or express a wish about the quality of

received services. At the same time, it has to be taken into account that the fact of low-quality hotel services will inevitably be spread to more than a thousand consumers because each dissatisfied client will share their impressions with ten more. As practice shows, only one out of ten dissatisfied consumers will return to such a hotel.

At the same time, in order to attract a new customer, the hotel will have to make five times more efforts than for retaining the existing one (Hludkin, Hurov, 2001; Davydova, 2018) (Fig. 1).

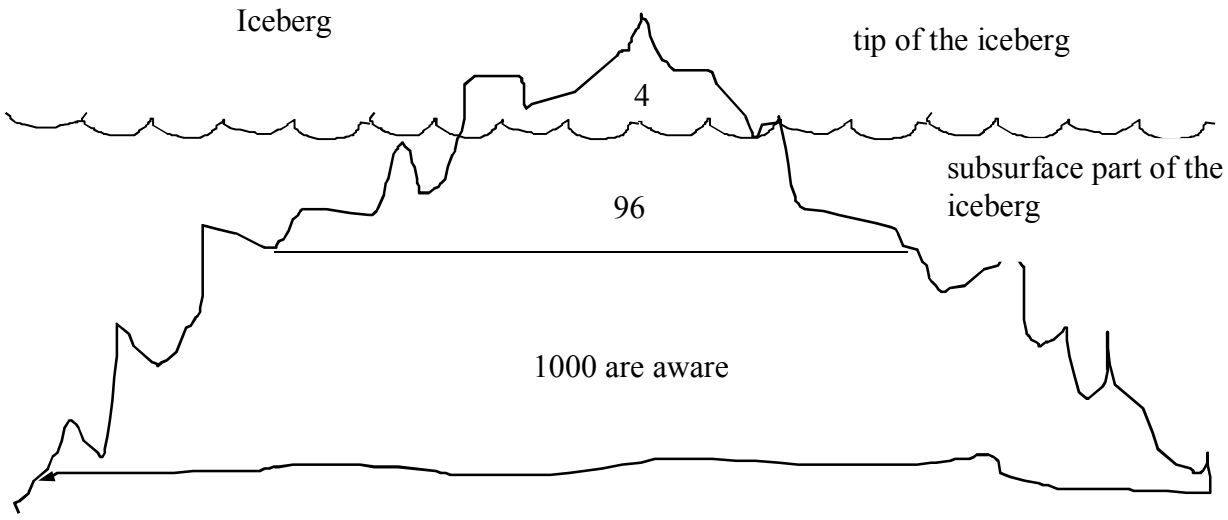


Fig. 1. Information received by the enterprise on the quality of its services

Consequently, an integral part of the service delivery process is quality management which includes:

– measurement and monitoring of key activities involved in the service delivery process in order to avoid undesirable trends and consumers` dissatisfaction;

– self-control of the personnel involved in the provision of services as an integral part of the measurement of process parameters;

– final service evaluation by the hospitality industry enterprise (in direct interaction with the consumer) in order to determine the prospects for its quality.

Changes in components` value (*cs*) in accordance with (c) are possible provided the application of not only innovative technologies and modern materials but also the optimal system for achieving such a level of service quality expected by consumers. It will simultaneously provide high service value together with its relatively low cost. In this case, formula 1 is the following:

$$cs = \frac{v\uparrow}{s\downarrow} \tag{3}$$

Such a system is the Total Quality Management System (TQM) the main concept of which is “Execution Quality – at minimum cost for the consumer”. Total quality management is a specific technology for managing all quality improvement processes. It consists of three parts:

1) core system is the tools used for analysis and research based on the use of a generally accepted mathematical apparatus and statistical control methods;

2) technical support systems are techniques and programs enabling to train personnel to be able to master these tools and to use them properly;

3) systems for improving and developing overall quality management involving the adaptation of scientific approaches, economic laws of the functioning of market relations, enterprise laws, the structure and principles of quality management to specific requirements and market conditions.

The TQM conception provides a comprehensive understanding of quality. TQM approaches are largely reflected in the new version of ISO 9000 international standards, in particular, it is connected with the eight principles of TQM based on E. Deming`s principles. While ISO 9000 standards declare quality to be the ultimate goal, the TQM conception treats it as an ongoing process where the course of progress itself is just as important as the ultimate goal. The very concept of TQM enables to satisfy needs and wants of all the stakeholder groups of a hospitality industry enterprise acting as a supplier.

Quality is assessed only by the consumer. The main TQM requirements consider the consumer as a participant in the process of creating high-quality services. The manager accumulating consumer needs should organize the optimal system operation to achieve the goal equally treating needs and wants of both external customers of the hospitality industry enterprise and its workers who are internal consumers.

Determining consumer needs is the first step that needs to be taken in order to make it an integral part of the process of creating a high-quality service. To determine the external consumer`s demands, it is necessary to conduct market research and realize market expectations during the planning, development and provision of services. Comparison of the service function, its provision and cost with consumer needs is the basis of service quality assessment.

The TQM conception is realized at the enterprise through the use of certain methods, techniques, and measures (table 1) (Davydova, 2018). Today, in the world practice it has been accumulated and is further increasing such an arsenal of these methods and measures that enable any enterprise, in particular, in the hospitality industry to use them for the implementation of the TQM conception taking into account the specific conditions in which the establishment develops.

The TQM implementation process is significantly influenced by market pressure resulting in the readiness of hospitality industry enterprise management to implement a quality management system. This process should be led by a manager who has the full support of the staff.

Table 1. Techniques and measures used in implementing TQM at hospitality industry enterprises

Quality management	Production control	Personnel management	Resource management
Quality concept definition	Process robustness (stability)	Management team	Quality spending plans
Quality policy	Statistical control methods	General quality training	Execution control parameters
General quality training	Process capability	Task force formation	Cost parameters
Relationships with internal consumers	Solution of technological problems	Motivational techniques and measures	Resource conservation
Quality systems	Process improvement	Connecting links	Environmental improvement
Quality circles	Failure mode and effects analysis at the design stage	Intensification theories	Working within the frameworks of such systems as “just-in-time”, or “Kanban”
Taguchi methods	The same at the production stage	Skill improvement	

Here are the most known and most common TQM methods and measures:

1. Deming cycle (PDCA-cycle) according to which quality management is divided into four main stages: planning, implementation, control, and corrective actions.

2. Seven simple statistical methods. These include the checklist, the Pareto chart, the causation diagram, the Fishbone diagram, the histogram, the scatter diagram, the data striping, and the control card.

3. “Just-in-time” conception.

4. Quality function deployment (QFD).

5. Potential failure mode and effects analysis (PFMEA).

6. Taguchi techniques for quality engineering.

7. "Zero Defects" (ZD) program.

8. Quality circles.

9. Formation of the corporate culture.

10. Process reengineering.

11. Continuous Actuations and Life-cycle Support (CALS).

12. Benchmarking.

13. EFQM Excellence Model. It involves the system of criteria based on the principles of TQM and designed for the evaluation of enterprise activity on quality.

The most important principles of quality achievement at the hospitality industry enterprise underlying the concept of TQM are the following:

1. Orientation of all activity of the hospitality industry enterprise to consumers, since the satisfaction of their demands and expectations determines its success in the market economy.

2. Treatment of work relations between employees as relationships between the consumer and the supplier.

3. Continuous improvement of production and activities on quality.

4. Comprehensive and systematic solution of the quality assurance tasks at all stages of its life cycle

5. Shifting the main quality assurance efforts to human resources (the emphasis on the attitude of employees to their duties, corporate culture, management styles).

6. Participation of each and every employee in solving quality problems (quality as a matter concerning everyone).

7. Continuous employees` skill improvement at hospitality industry enterprises.

8. Concentration not on the detection, but prevention of inconsistencies.

9. Attitude to quality assurance as a continuous process when the quality of an object at the final stage is a consequence of achieving quality at all previous stages.

10. Optimization of the ratio in the triad "quality – costs – time".

11. Ensuring the reliability of quality data through the use of statistical methods.

12. Continuous quality improvement (Juran's conceptions, etc.).

These principles determine the ideological basis of the TQM philosophy which sets the quality as the main criterion for evaluating the organization`s performance, treats quality in its broad economic and socio-psychological sense disproving the idea of the inevitability of contradictions between the producer and consumer.

While ISO 9000 standards declare quality achievement to be the ultimate goal, the TQM conception treats it as an ongoing process where the course of progress itself is just as important as the ultimate goal. The very concept of TQM enables to satisfy needs and wants of all the stakeholder groups of a hospitality industry enterprise acting as a supplier.

For most large hotel corporations, improving service quality is an important factor in their unified strategy. The development and implementation of quality programs in the functioning of hotels is a creative process. Therefore, we propose to introduce the "Six Sigma" program at hospitality industry enterprises which is the concept of management aiming at measuring the degree of deviation of business processes from their goals and, in this respect, their further improvement aimed at satisfying consumers and improving enterprise efficiency (Davydova, 2018, p. 446-450).

The "Six Sigma" conception implies the definition of short-term goals of the enterprise aimed at the further pursuit of long-term objectives. The short-term goals are connected with fulfilling business processes at a certain level, and long-term objectives lie in the improvement of business processes oriented towards consumer satisfaction and an increase in production efficiency. The value of measurements is the number of defects per

unit (DPU) and the number of Defects per Million Opportunities (DPMO). This indicator is used for estimating and changing various enterprise objects: produced products, service provision, equipment operation, software, implementation of design, production and management processes, etc.

Thus, the sigma value shows how often a defect may occur. The higher the sigma, the less likely it is for the defect to take place. The high level of deficiency, and hence the "number of sigmas" leads to the loss of consumers and, accordingly, the volumes of sales of products and profits received. Consumer dissatisfaction has a wave-like effect caused by processes with a low sigma level: the dissatisfied consumer shares his bad experience with 9–10 people who may later spread this negative information; in case of further successful solution of the problem, the consumer will tell about it only five people; 31% of consumers experiencing service problems never register their complaints; only 9% of these consumers can use the services of this company in the future.

The implementation of the "Six Sigma" conception at the enterprise requires particular staffing. Respectively, according to the "sigma" scale, you can draw up a "breakthrough profitability" program involving process improvement, increasing consumer satisfaction and production profitability.

Most hotels today are at the level of "34 sigmas" where the value of defects and errors comes out at 20–30% of revenue. When reaching the level of "6 sigmas" there are 34 defects or errors per million opportunities representing 1% of sales (Portal for the hospitality business).

In order to determine the effectiveness of domestic hotels` activity, it has been carried out their analysis in the Kharkiv market of hotel services. The results of the analysis showed that the efficiency ratios of a number of hotels over the past 10 years tend to decrease, in particular, there is a decrease in demand for hotel and restaurant services (Davydova, 2018, p. 516-573).

To find out the specific reasons for a decline in demand for hotel and restaurant services, it is necessary to analyze all the structural components of the quality of services, identify rough spots (problems) as compared to the main competitors` indicators, develop and implement measures to eliminate "rough spots" and improve the quality of services.

The most effective and reliable tool providing a systematic approach to identifying the actual causes of the problem and developing specific actions to address it is the Cause and Effect Diagram Ishikawa (Fishbone Diagram). It makes it possible to identify key interrelationships between different factors contributing to the appropriate identification and systematization of all potential causes of the problem under consideration, as well as their effect prevention or elimination (Fig. 2).

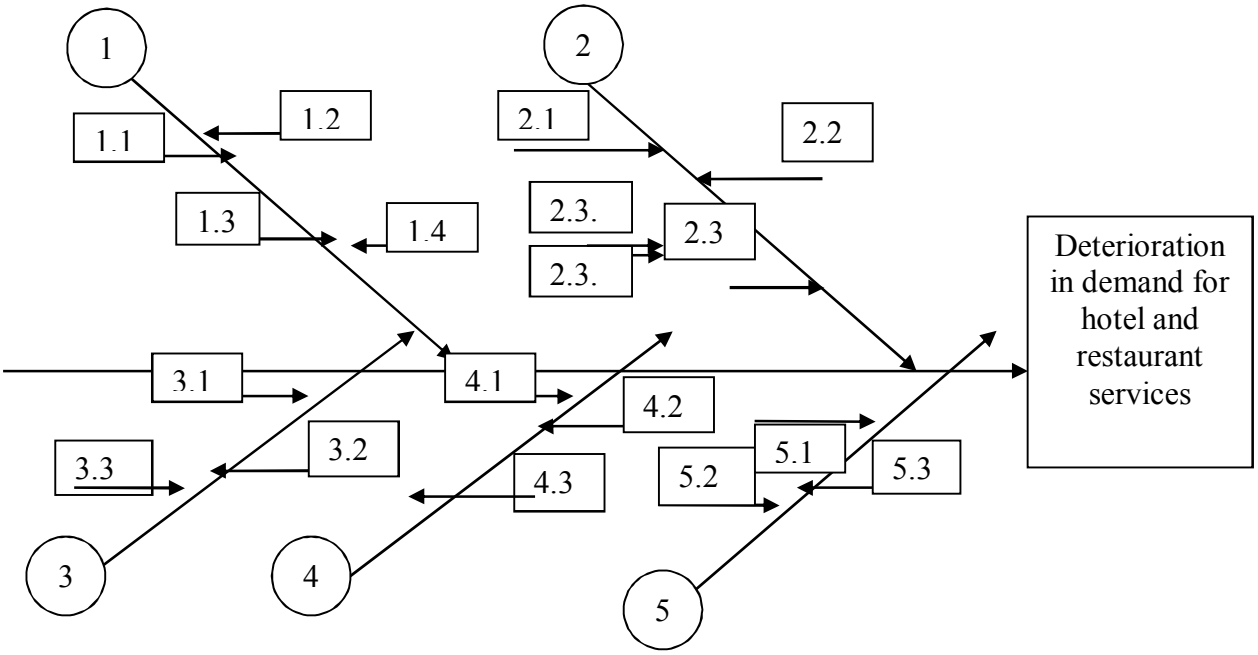


Fig. 2. Fishbone Diagram

1. Staff
1.1. Insufficient qualification of the service industry personnel.
1.2. Staff`s impoliteness to the consumer.
1.3. Increased levels of fatigue and stress.
1.4. Inappropriate service standards
2. Enterprise management.
2.1. Lack of a hotel development strategy.
2.2. Inadequate investment in fixed assets.
2.3. Ineffective personnel management system.
2.3.1. Weak system of personnel motivation.
2.3.2. Lack of a personnel training system.
3. Marketing.
3.1. Unwise advertising policy.
3.2. Ineffective marketing concept.
3.3. Price level does not match the level of service.
4. External environment (unaffected by the enterprise).
4.1. Inconvenient location of the hotel.
4.2. Seasonality.
4.3. Consumer purchasing power level.
5. Facilities and equipment, technology.
5.1. Outdated technologies of consumer service.
5.2. Old-fashioned equipment, furniture.
5.3. Old exterior and interior.

The obtained data are typical for many hospitality industry enterprises, especially for those that were founded in the Soviet times. A detailed Fishbone Diagram serves as a basis for drawing up a plan of interrelated measures that will provide a comprehensive solution to the problem formulated during the analysis. Based on the obtained findings, hospitality industry enterprise management needs to introduce a number of measures aimed at eliminating or improving identified causes and elaborating a development roadmap with a clear plan for its implementation boosting consumer demand for hotel and restaurant services and, thus, ensuring the efficient functioning of an establishment.

The service is closer to the consumer than the product. It is attributed to the fact that the service is manifested at the time of its provision, and manufacturing is isolated from the consumer. The product quality is perceived, first of all, through the quality of service when it is provided. At the moment when a service is received, the expected outcome is compared with the real (received) services.

Therefore, the priority of hospitality industry enterprise management is the attraction and support of staff, especially employees servicing clients. Due to the creation of favorable conditions for these aspects and its employees` professional growth, it has to provide regular training of workers and planning their career prospects; to allocate employees` responsibility and authority; to formulate individual and collective goals; to manage process indicators and asses results; to engage workers into setting goals and making decisions; to note achievements and reward for success; to facilitate open exchange of information; to constantly analyze the needs of its employees; to create conditions that stimulate innovation; to provide effective collective work; an exchange of proposals and views; to measure the satisfaction level of their employees; to study the motives of finding employment and their quit.

Personnel involved in work affecting the quality of services must be competent, that is, with appropriate educational background, training, qualifications, and experience. Management facilitates the necessary levels of competence for the efficient functioning of the hospitality industry enterprise and provides the analysis of actual and expected competency requirements in comparison with those levels that already exist at the enterprise. Hospitality industry enterprise personnel have to master the methods of teamwork. Activities on continuous improvement are mainly organized and conducted in groups. In this way a synergistic effect is achieved: the aggregate result of a team substantially exceeds the sum of the results achieved by individual performers.

In order to facilitate fuller engagement of employees, hospitality industry enterprise management should provide their general and professional training comprising the following issues: the vision of the future enterprise, its policy and goals, organizational changes and enterprise development, the initiation and implementation of improvement processes, benefits from creative and innovative activities, the influence of the hospitality industry enterprise on society, onboarding programs, regular professional development programs for those workers who have already been given training.

The enterprise head has to make sure that the following issues are included in employees` training programs: goals, programs, and methods, necessary resources, the definition of the necessary internal support, assessment in terms of employees` capacity building, measuring the effectiveness of training and its impact on the hospitality industry enterprise. In order to ensure a high quality level of products and services offered by the hospitality industry, the enterprise has to create an optimal organizational structure, develop professional service standards and job descriptions based on the standardization of operational processes aimed at solving the problem of good service provision.

An important aspect of the application of the total quality management system is the introduction and development of corporate quality standards at each hospitality industry enterprise. It will unify accounts and records, increase responsibility and provide the quality control of all enterprise departments. In regulatory documents it is useful to prescribe the following characteristics: sanitary, time (waiting time and service provision, technological cycle time), organizational (staffing, quality management system), personal characteristics of staff (competence, skill level, courtesy, availability of staff for clients), complex (aesthetics of the delivery of hotel products, contact frequency, comfortableness), quantitative and qualitative parameters of materials, equipment and tools. In order to provide services of the appropriate quality level, it is necessary for the hospitality industry enterprise to develop and implement innovative technologies of production and consumer service, to upgrade its facilities, to intensify the marketing department activity, to develop plans and to provide conditions for minimizing the influence of uncontrolled environmental factors, etc.

It is possible to achieve the high quality of products and services and competitiveness of the enterprise in general by developing and implementing the innovation-driven development management of such hospitality industry enterprises. The purpose of the integrated innovation development management formation at the hospitality industry enterprises is the organization of a structural and qualitative system of innovative management methods and forms of the enterprise activity and the permanent provision of its dynamic development (Davydova, 2018). The implementation of efficient and complex quality management mechanisms and strict adherence to its requirements will enable to ensure the target-driven improvement of the quality of services, their competitiveness in the world and national markets. It implies service certification and the improvement of standardization as the main instrument of robustness and the provision of the corresponding quality level.

ISO 9000 International Standards are the requirements facilitating the introduction and provision of efficient quality management systems at hospitality industry enterprises and their free development in all areas without imposing any models for improving internal quality management (DSTU ISO 9000-2001; DSTU ISO 9001-2001; DSTU ISO 9004-2001). As evidenced by the International experience, ISO 9000 standards are the best solution to build a quality system at any enterprise. The successful use of the quality management principles by hospitality industry enterprises will allow all stakeholders to gain such benefits as increased profit, creating value and improving stability in their activity.

Conclusions.

In modern conditions, at hospitality industry enterprises the role of quality control in management systems should be increased. It can be attributed to the following factors: 1) quality is the most important component of compatibility; 2) systematic quality management serves as a guarantee for the safety and efficiency of service provision; 3) specificity of the existing relationships between the supplier and service recipient includes a mandatory assessment of the supplier`s quality management system which is a guarantee to the consumer for the sustained quality of service. The generalization and implementation of international experience in providing quality services at hospitality industry enterprises will bring it significantly closer to international service standards. However, it has to be borne in mind that the exact extrapolation of foreign experience does not necessarily lead to the expected result. It is dependent on the business environment for each particular enterprise, as well as the national Ukrainian mentality, production and communication culture, historically formed quality standards of life and other features. Building an effective quality management system allows forecasting and evaluation of the actual level of service quality, structuring of enterprise marketing activities, designing service processes.

Consequently, the problem of improving the quality of services is currently central. The result of improving the quality of hotel and restaurant services is important for all stakeholders in the hospitality industry. The positive result of quality improvement will expand export opportunities and increase currency incoming.

References.

Bezruchenkov, Yu.V. (2015). Components of future hospitality industry specialists` professional culture. *Academic Bulletin of Donbas*, (1), 29.

Hakova, M.V. (2014). Conceptual approaches to personnel management at hospitality industry enterprises. *Scientific Bulletin of Poltava University of Economics and Trade. Series: Economic Sciences*, (4), 130-134.

Hludkin, O., Hurov, A. (2001). Total quality management. Moscow: Horiachaia liniia.

Davydova, O. Yu. (2018). Methodology of innovative development management of hospitality industry enterprises: Doctoral Dissertations in Economics. 08.00.04. Kharkiv.

Davydova, O. Yu. (2018). *Quality Management of products and services in the hospitality industry*. Kharkiv: I.S Ivanchenko`s publishing .

DSTU ISO 9000-2001 Quality Management Systems. Fundamentals and Dictionary. Effective from 10.01.2001.

DSTU ISO 9001-2001 Quality Management Systems. Requirements Effective from 10.01.2001.

DSTU ISO 9004-2001 Quality Management Systems. Guidelines for performance improvements. Effective from 10.01.2001.

Levytska, I.V. (2014). Formation of the hotel service quality management system. *Formation of market relations in Ukraine*, (1 (152)).

Portal for the hospitality business (n.d). Retrieved from: http://prohotelia.com.ua.

Alona Melnyk
Doctor of Economics, Professor,
Head of the Department of Business Economics and Tourism
Zorina Shatska
PhD in Economics, Associate Professor, Department of Business Economics and Tourism
Kyiv National University of Technologies and Design,
Kiev, Ukraine

EXPERIENCE OF FUNCTIONING OF FOREIGN BUSINESS STRUCTURES IN A GLOBALIZED SPACE

Abstract. *The essence of the concept «business structure» is defined in the article and their classification is given. Summarized scientific approaches to the interpretation of this concept. The common and difference features between business structure, as new integration entities of the globalized space and traditional enterprise are shown. The place of business structure is investigated and the role and functions are generalized in shaping the national economy. The experience of functioning of 24 foreign business structures is analyzed on the example of the countries of Europe and North America according to world-known ratings, namely: National Entrepreneurship Context Index (NECI) and Entrepreneurship Framework Conditions Rankings of Economics; The annual worldwide ranking top 500 global companies «Fortune Global 500». It has been proved that modern business structure, as powerful integrated systems of self-governing economic entities of various organizational and legal forms, operating in a market environment or in the global Internet (network business structures), have a decisive influence on the development of the national economy and the acceleration of the formation of the global market.*

JEL Classification: F01, F02, F23, L26

Introduction.

In every era of human civilization business has some specific features. To date, human civilization is on the fifth period of business, which began after the Second World War. Geopolitical transformations, which began in the early 80's of the twentieth century, destroyed the world order and intensified the globalization processes in the world. With the further intensification of the globalization process, caused by the integration and regionalization of the world economy, business conditions are changing rapidly. If in the commercial era there were separate trading enterprises, then in the end of the nineteenth century there was the formation of large industrial enterprises of mass production. In today's conditions, not a single large industrial enterprise is coming to the fore, and a flexible business structure that carries out business in a globalized world.

The 21st century was marked by the rapid development of new information and telecommunication technologies, and society moved to the information stage of development. Unlike the industrial era, the main tool in a new society has become information and knowledge. The complexity of business conditions, increased competitive pressure, the struggle for the consumer and the need to survive in difficult, foreseeable conditions, and other factors, compel individual companies to join larger business structures in order to flexibly adapt to market changes, develop in a competitive environment and in the face of globalization challenges , have the opportunity to ensure the continuous creation

and implementation of high-tech developments. That is why, unlike the traditional enterprise, the modern business structures is the voluntary integration of independently operating entities of various organizational and legal forms into a single, complex, open system operating in a globalized environment with the aim of developing and commercializing innovative products that increase efficiency activities and accelerates the development of business structures that form an business structures (Shatska, 2018).

The current trend of business development is the transformation of traditional business structures into the network or as the initial stage – a combination of traditional structure and network. An example of such a combination on the FMCG market in retail network structures is the discovery of online stores that function effectively simultaneously with traditional stores. In the banking sector – the simultaneous operation of a traditional bank and Internet banking. In the near future, these sectors will have a complete transition to networked structures, both faster and more efficient, which will enable consumers to save time on purchases and payments by directing them from home. All this necessitates a detailed study of the experience of the functioning of modern foreign business structures and the introduction of their experience in the activities of domestic enterprises. What is especially relevant at the current stage of development of the Ukrainian economy, whose economy has not yet created business structures in the form of transnational corporations.

1. Business structure: the essence and approaches to the interpretation

In general, the term «business structure» is widely used by domestic scientists as a generalizing concept. By definition, one part of the scientists, the term «business structure» is identified with the term «enterprise», while the other part invests in this concept a much broader meaning (Koval et al., 2017). In Ukraine, at the legislative level, this concept is not used. In domestic and foreign scientific literature, there are no approaches to the interpretation of this concept. Therefore, it is first necessary to investigate the definition of the concept of «business structure» and define approaches to its interpretation (Fig. 1.).

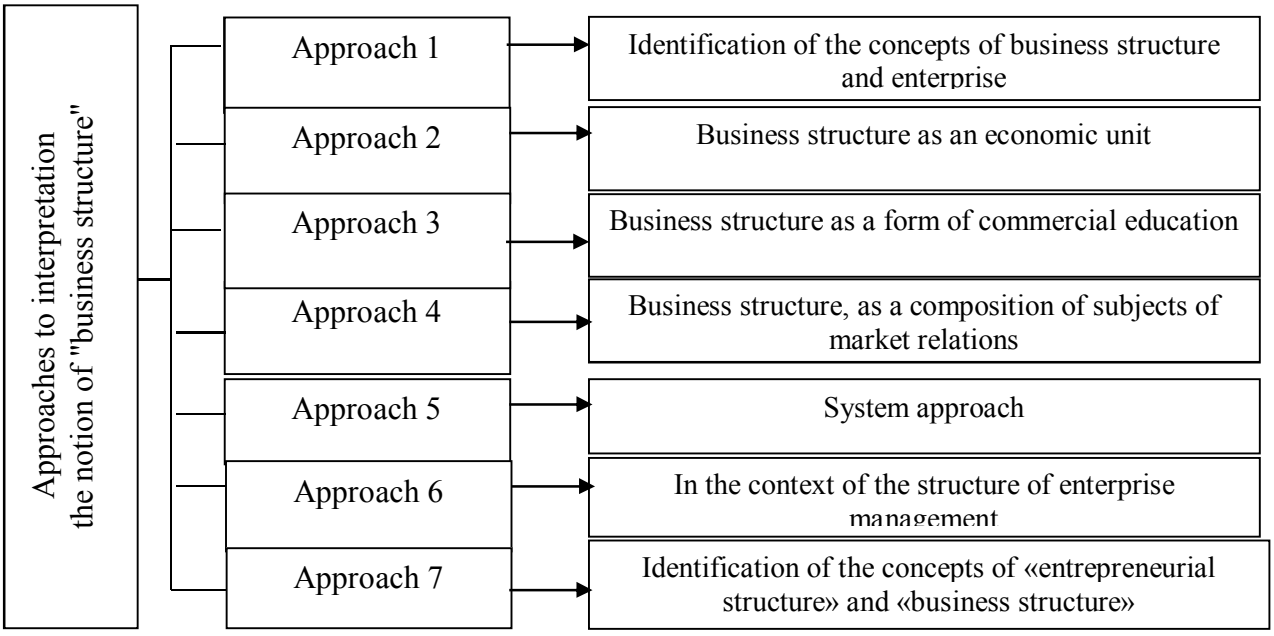


Fig. 1 Approaches to the interpretation of the concept of «business structure»

The first approach. Identification of the concepts of business structure and enterprise.

Most domestic scientists consider that an enterprise, functioning in a market economy as a business entity, and is an business structure (Nitsenko, 2014).

That partly coincides with the classical definition of the enterprise. The enterprise itself is an independent economic subject, which ensures the production of competitive products, implementation of works, services that satisfy needs of consumers and society. The features of the creation, operation and liquidation of enterprises in Ukraine are enshrined in the Commercial Code of Ukraine, which states that an enterprise is an independent economic subject created by a competent authority of state power or a local self-government body or other subject to satisfy public or private needs through the systematic implementation of industrial, research, trade and other economic activities (Law of Ukraine The Commercial Code of Ukraine, 2003).

The second approach. Business structure as an economic unit.

According to this approach, researchers consider an business structure as an independent economic unit, a main link in the economy. So, by definition, Tkacheva I.E. and Ropotan S.V. a business structure is an independently functioning economic unit whose activities are subject to the laws of entrepreneurship and consists in the constant search for an optimal form of compliance with market requirements at a specific moment in the development of the market (Constitutional Law, 2018; Ropotan, 2012; Tkacheva, 2010).

This approach, as the first approach, identifies the concept of «enterprise» and «business structure», only emphasizing the aspect of their economic independence.

The third approach. Business structure as a form of commercial education.

Business structure, as a form of commercial education, carries out business activity in order to profit. Such activity is legalized. So, by definition, Koshelev V.M. an business structure is a legal form of a commercial entity engaged in entrepreneurship on its own behalf, that is, it derives profits from the results of its activities (Koshelev, 2000). This approach, as well as previous approaches, identifies the concept of «enterprise» and «business structure», only focusing on the aspect of their business and registration as a legal entity.

Fourth approach. Business structure, as a composition of subjects of market relations.

According to this approach, a business structure is understood to mean a certain group of subjects of market relations whose purpose is to obtain business income. By definition I.N. Gerchik business structure is a composition of subjects of market relations, which include only those organizational and economic units whose purpose is to generate profit as the final result of activities (Gerchikova, 2007). Gershank G.A., Shishkin D.G. clarifies the concept of a business structure, including to such structures only those organizational and economic units whose purpose is to generate profit (business income) as the final result of activity (Gershanok, G.A., Shishkin, D.G., 2012).

This approach is based on the necessity for profit or business income as the main goal of business structures.

Fifth Approach. System approach.

The application of a systematic approach makes it possible to carry out a complex study of a complex object - a business structure, as a single integral system in an inextricable connection with all its constituent elements. Such a structure is a self-financing and self-financed system that should provide cost-effective activity (Technical dictionary, 2008). Krivenko L., Krivenko S. support this idea, considering that business structures should be characterized as a system object that has such properties as integrity, hierarchy, integrability (Krivenko, L. & Krivenko, 2012). By definition, Glushich D.A. and Orlova A.V. business structure is a structure whose activity is the rational use of factors of production for the creation of a qualitatively new product, as well as profit, the use of technical progress, which is associated with the emergence of various risks, while responsibility is entirely economically. Foreign researchers distinguish two main approaches to the definition of «business structure»:

Sixth approach. In the context of the structure of enterprise management (Korsun, 2010). According to this approach, the concept of «business structure» is identified by researchers with the organizational structure of the enterprise. This is due to the possibility of double interpretation and understanding of this term inherent in the Ukrainian language: the business structure is the structure of the enterprise. In our opinion, the identification of these two concepts is inappropriate. It is necessary to distinguish between the terms «business structure» and «enterprise structure» (or «organizational structure of the enterprise»). Thus, Article 64 of the Commercial Code of Ukraine gives a clear definition of the organizational structure of the enterprise, as a composition and the ratio of its internal units (shops, sections, divisions, laboratories and other units) that constitute a single economic object (Law of Ukraine The Commercial Code of Ukraine, 2003). That is, the organizational structure of an enterprise is its internal structure. Distinguish the general, production and organizational structure of the enterprise. And the business structure is the composition of the subjects of market relations, the purpose of which is to generate profits, and each subject as a part of the business structure has its own internal structure or organizational structure.

Seventh approach. Identification of the concepts of «entrepreneurial structure» and «business-structure» (Korsun, 2010). It should be noted that in Ukraine, the concept of «entrepreneurship» is often identified with the notion of «business» and is considered synonymous words. According to Varnalia Z.S., entrepreneurship is «a special type of business, where the main subject is the entrepreneur, who rationally combines the factors of production on an innovative basis and own responsibility, organizes and directs production for the purpose of obtaining business income» (Illyashenko, 2018). The essence of entrepreneurship is the formation and implementation of a new idea, which can be implemented in the form of new technologies, goods (works, services) in order to meet the needs of society. In Western countries, entrepreneurship is seen as a particular type of business, based on the search for new opportunities for goods and services based on innovation and the ability to attract resources from a variety of sources (Entrepreneurship in Ukraine, 2018).

Along with the term «entrepreneurship» is used general economic term «business», which characterizes the scope of the business entity and its economic interests, the case in one or another field of entrepreneurship, when in the presence of a certain risk achieved commercial success is achieved. By definition, the economic vocabulary business (English business) – is the activity aimed at obtaining profit by creating, manufacturing and marketing of certain products or services or business, employment, entrepreneurship, economic activity, aimed at profit (Zavadskii, I.S., Osovska, T.V., & Ushkevish O.O., 2017).

According to the above definitions one can conclude that business is a notion broader than entrepreneurship, and business activity is a part of business.

At the same time, business can be entrepreneurial. By definition, the Explanatory Dictionary economist business entrepreneur – a business whose object may be production of products, services, trade, commercial and intermediary activities. All that can satisfy needs of consumers and is offered for the purchase on market, use, consumption, in order to obtain business profits (Shatska, 2018).

The basis of any business is the so-called business structures. Business structures are structures that help create an effective business climate, provide an appropriate level of competitiveness, meet the needs of the population and raise both the economy of the region and the state to the corresponding level (Zaichna, 2018).

Accordingly, the basis of entrepreneurship are business structures. By definition of I.V. Tyrpak, V.I. Tyrpak, S.A. Zhukov business structure is a group of people whose activities are deliberately coordinated to achieve common goals (Tirpak, I.V., Tirpak, V.I., & Zhukov, S.A., 2011).

The diversity of approaches to the interpretation of the concept of «business structure» is due to the fact that each scientist has his own view on this concept and, accordingly, uses it for certain research purposes.

The essence of a business structure that distinguishes it from a typical enterprise lies in the fact that the main emphasis of the activity of such education is directed at the search and implementation of innovations, constant innovation development and entrepreneurship, which will ensure the stability of profits.

2. The role, functions and prerequisites for the formation of business structures in a global economy

One of the most important problem of modern business structures is the production of competitive goods and services to meet growing social needs in the national and international markets (Illyashenko, 2018). Business structures, as business entities, are diverse. They, like the traditional enterprise, are a key element in the development of the national economy, fulfilling certain functions, which are based on the functions of entrepreneurship, namely: innovative, resource, motivational, risk functions. Functions of business structures in the development of the national economy:

1. Formation of national market and competitive environment. Business structures contribute to the development of competitive relations, as a result of rapid adaptation to market changes and the continuous orientation towards the production and realization of innovative products to meet the needs of consumers.

2. Creation of new or recovery of declining branches as an operational reaction of business structures to change the market conditions for the introduction of innovative technologies and reorientation of the production of innovative products to other related industries. They are a lever to change the structure of the national economy.

3. Acceleration of scientific and technological progress, search and development of new technologies and their introduction into the production of high-tech products.

4. Solving the problem of employment by creating new jobs, absorbing redundant labor during cyclical shifts in the economy.

5. The source of significant revenues to the state budget.

6. Stimulation of economic activity by introducing promising innovative production, rapid updating of technical and technological base and product assortment.

7. Savings and rational use of raw material resources through the creation of high-tech and energy-efficient productions.

The role of business structures in the development of the national economy lies in:

1. Production role. The combination of means of production with the labor force in the national market. Thus, business structures, as powerful business entities, produce innovative products to satisfy the needs of society and provide employment for a significant part of the population.

2. Social role. Implementation of workers' abilities is taking place, labor skills are formed, qualifications are raised, corporate culture is raised. Business structures, as highly profitable enterprises, are able to provide their employees with a social package, which may include: free meals, medical care, travel, study, rest, etc.

3. State role. Business structures, as powerful tax objects, pay significant tax revenues, forming and filling state and local budgets that contribute to the development of the national economy.

The prerequisites for the formation of such structures in a global economy are:

1. The gradual development of human civilization and the invention of all the better new tools of work, caused by industrial revolutions and the change in technological processes.

2. Change in the views on entrepreneurship from the creative activity of one entrepreneur to the collective work of talented people and the introduction of the concept of «collective entrepreneur», which is caused by an increase in the scope of project activities in the enterprise, which cannot be implemented by one person.

3. The need for a constant search for ways to increase the efficiency of activity, competitiveness and sustainable development of modern enterprises in an unstable and dynamic environment, complicated by globalization processes.

Thus, a business structure is the voluntary integration of self-governing economic entities of various organizational and legal forms into a united, integrated, open system that functions in a globalized environment with the aim of developing and commercializing innovative products, which increases the efficiency of activities and accelerates the development of business entities forming a business structure.

The development of business structures, together with measures of state and administrative regulation, in the future should serve as a tool for DE monopolization of our economy, namely, entrepreneurship - to become a real engine of economic development and to contribute to the prosperity of all spheres of society's life in a market economy (The role of enterprise and entrepreneurship in a market economy, 2018).

3. Experience of operation of foreign business structures

We will analyze the experience of functioning of foreign business structures on the example of the countries of Europe and North America. For this we will use world-famous ratings, namely: National Entrepreneurship Context Index (NECI) and Entrepreneurship Framework Conditions Rankings of economics; The annual worldwide ranking top 500 global companies «Fortune Global 500». According to National Entrepreneurship Context Index (NECI) and its 12 Components – Scores for 54 Economics, which annually forms the «Global Entrepreneurship Monitor» – a leading international researcher in the field of global entrepreneurship (Global Entrepreneurship Monitor, 2018) and the annual worldwide ranking top 500 global companies «Fortune Global 500», which is published annually by the American business magazine «Fortune» (Fortune, 2018) determine the relationship between the level of development of small business in the country and the formation of large business structures that can reach the global level.

The rating analysis will be carried out according to 2018 data for the 24 leading European and North American countries, which we then group together using the ABC analysis. In tabl. 1 presents the results of the ABC analysis of the index of entrepreneurship in Europe and North America in 2018.

According to the analysis, we can conclude that in Group A, 18 countries with the highest incomes in the economy and the highest level of entrepreneurship came to the top of the list or 75% of those surveyed, with the exception of Turkey, with an average level of income in the economy. Group B – a country with high incomes in the economy and the middle level of entrepreneurship hit two countries (Italy and Greece) and two middle-income countries in the economy and the middle level of entrepreneurship (Russia and Bulgaria) or 16,7% of the surveyed.

Group C – a country with high incomes in the economy and low levels of entrepreneurship fell 2 countries or 8,3% of the study population.

Table 1.ABC analysis of the entrepreneurial index of Europe and North America for 2018

Income level	Country Europe and North America	National Entrepreneurship Context Index (NECI) and Entrepreneurship Framework Conditions Rankings of economies		%	Growing summary	Category ABC
		score	rank			
high income	Netherlands	6,51	3	5,25	5,25	A
high income	United States	5,98	6	4,82	10,07	A
high income	Luxembourg	5,7	8	4,60	14,67	A
high income	Switzerland	5,68	9	4,58	19,25	A
high income	France	5,62	10	4,53	23,78	A
high income	Canada	5,54	12	4,47	28,25	A
high income	Austria	5,54	13	4,47	32,72	A
high income	Spain	5,38	16	4,34	37,06	A
high income	Ireland	5,38	17	4,34	41,40	A
high income	Sweden	5,37	18	4,33	45,73	A
high income	Germany	5,36	19	4,32	50,05	A
high income	Latvia	5,21	22	4,20	54,25	A
high income	Poland	5,21	24	4,20	58,46	A
high income	Slovenia	5,18	25	4,18	62,63	A
high income	Cyprus	5,09	27	4,11	66,74	A
middle income	Turkey	5,05	29	4,07	70,81	A
high income	United Kingdom	4,94	30	3,98	74,80	A
middle income	Kazakhstan	4,93	31	3,98	78,77	A
middle income	Bulgaria	4,66	36	3,76	82,53	B
middle income	Russian Federation	4,63	37	3,73	86,26	B
high income	Italy	4,52	40	3,65	89,91	B
high income	Greece	4,34	42	3,50	93,41	B
high income	Slovak Republic	4,34	43	3,50	96,91	C
high income	Croatia	3,83	53	3,09	100,00	C

Source: compiled by author for (Global Entrepreneurship Monitor, 2018; Fortune, 2018)

Further, according to the world ranking of the 500 largest companies in the world, Fortune Global 500, we will analyze the number of transnational corporations in each country in Europe and North America. The results of the analysis are presented in table 2 and distributed by the ABC analysis method. A

ccording to the results of the analysis we can conclude that in group A – countries in which high income level in the economy, created and operate TNCs with high total income hit 10 countries or 41,7% of the studied.

Table 2.Ranked rank by number of TNCs in Europe and North America in 2018

Income level	Country Europe and North America	Number of TNCs in the country	Total revenue of TNCs, billion dollars	Category by number of TNCs in the country and their income level
high income	United States	126	8685,2	A
high income	Germany	31	2057,2	A
high income	France	28	1675,3	A
high income	United Kingdom	21	1123,612	A
high income	Netherlands	14	1206,1	A
high income	Switzerland	14	655,9	A
high income	Canada	12	425,2	A
high income	Spain	10	392,3	A
high income	Italy	7	367,5	A
high income	Ireland	4	127,8	A
middle income	Russian Federation	3	327,6	B
high income	Sweden	2	62,8	B
high income	Luxembourg	1	68,7	B
high income	Poland	1	25,3	B
middle income	Turkey	1	27,108	B
high income	Austria	0	0	C
high income	Greece	0	0	C
high income	Slovak Republic	0	0	C
high income	Croatia	0	0	C
high income	Latvia	0	0	C
high income	Slovenia	0	0	C
high income	Cyprus	0	0	C
middle income	Kazakhstan	0	0	C
middle income	Bulgaria	0	0	C

Source: compiled by author for (Global Entrepreneurship Monitor, 2018; Fortune, 2018)

The largest number of TNCs and, respectively, the highest income, has been established and operates in the United States.

Group B – the countries in which there were created and operate from 1 to 3 middle-income TNCs, came to 5 countries or 20.8% of the surveyed. This includes 2 middle-income countries in the economy (Russia and Turkey).

Group C is a high-income country in the economy with a revenue level, but has not created any business entity in the form of TNCs. This includes 2 countries (Kazakhstan and Bulgaria).

Ukraine did not hit the world's top 500 companies in the world «Fortune Global 500» in 2018 because it has low incomes in the economy and there is not a single business entity in the form of TNCs created in the country.

Table 3.Ranked ranking on the level of total revenue of TNCs in Europe and North America in 2018

Income level	Country Europe and North America	Number of TNCs in the country	Total revenue of TNCs, billion dollars	Growing summary	Category
high income	Netherlands	14	1206,1	7,00	A
high income	United States	126	8685,2	57,41	A
high income	Luxembourg	1	68,7	57,81	A
high income	Switzerland	14	655,9	61,62	A
high income	France	28	1675,3	71,34	A
high income	Canada	12	425,2	73,81	A
high income	Spain	10	392,3	76,09	A
high income	Ireland	4	127,8	76,83	A
high income	Sweden	2	62,8	77,20	A
high income	Germany	31	2057,2	89,14	B
high income	Poland	1	25,3	89,28	B
middle income	Turkey	1	27,108	89,44	B
high income	United Kingdom	21	1123,612	95,96	B
middle income	Russian Federation	3	327,6	97,87	B
high income	Italy	7	367,5	100,00	B
high income	Austria	0	0	0	C
high income	Greece	0	0	0	C
high income	Slovak Republic	0	0	0	C
high income	Croatia	0	0	0	C
high income	Latvia	0	0	0	C
high income	Slovenia	0	0	0	C
high income	Cyprus	0	0	0	C
middle income	Kazakhstan	0	0	0	C
middle income	Bulgaria	0	0	0	C
low income	Ukraine	0	0	0	C

Source: compiled by author for (Global Entrepreneurship Monitor, 2018; Fortune, 2018)

According to the results of the analysis we can conclude that in group A – countries in which high income in the economy, created and operate TNCs with a high total income hit 9 countries or 37,5% of the studied. The largest number of TNCs and, respectively, the highest income, has been established and operates in the United States.

Group B – middle-income countries hit 6 countries or 25,0% of the surveyed. This includes 2 middle-income countries in the economy (Russia and Turkey).

Group C is a country with a high level of income in the economy, but which has not created any business structures in the form of TNCs and, accordingly, no income from them. This includes 9 countries or 37,5% of the total number of countries under study.

In tabl 4 analyze the total contribution of business structure in the form of TNCs in Europe and North America in the GDP of the country concerned in 2018.

Table 4. Ranking of the contribution of business structure in the form of TNCs in Europe and North America to the GDP of the country concerned in 2018

Income level	Country Europe and North America	Number of TNCs in the country	Total revenue of TNCs, billion dollars	GDP of the country, trillion. dollars	% of GDP in the country	Category
high income	Netherlands	14	1206,1	826,2	0,0001	A
high income	United States	126	8685,2	20,513	0,04	A
high income	Luxembourg	1	68,7	17,1	0,004	A
high income	Switzerland	14	655,9	662,5	0,0001	A
high income	France	28	1675,3	104,731	0,002	A
high income	Canada	12	425,2	1733,71	0,002	A
high income	Spain	10	392,3	1437,05	0,00002	A
high income	Ireland	4	127,8	366,45	0,00003	A
high income	Sweden	2	62,8	554,66	0,00001	B
high income	Germany	31	2057,2	4029,14	0,00005	B
high income	Latvia	0	0	34,29	0	B
high income	Poland	1	25,3	549,48	0,000005	B
high income	Slovenia	0	0	54,97	0	B
high income	Cyprus	0	0	23,96	0	B
middle income	Turkey	1	27,108	713,51	0,000004	C
high income	United Kingdom	21	1123,612	2808,9	0,00004	C
high income	Austria	0	0	459,4	0	C
middle income	Kazakhstan	0	0	184,21	0	C
middle income	Bulgaria	0	0	63,65	0	C
middle income	Russian Federation	3	327,6	1576,49	0,00002	C
high income	Italy	7	367,5	500,74	0,00008	C
high income	Greece	0	0	218,06	0	C
high income	Slovak Republic	0	0	106,94	0	C
high income	Croatia	0	0	59,97	0	C
	Ukraine	0	0	126,39	0	C

Source: compiled by author for (Global Entrepreneurship Monitor, 2018; Fortune, 2018)

According to the results of the analysis we can conclude that in group A – countries in which high income in the economy, created and operate TNCs with high total income, the contribution of these enterprises in the GDP of the country is from 0.04 to 0.00003%.

In group B – countries in which 1 to 3 TNCs with average income are created and operate, their contribution to the GDP of the respective country is from 0,00001 to 0,00005%.

In group C – a country with a high level of income in the economy, but which has not created any business structure in the form of TNCs, respectively, no income. In this group, too, was England, in which though 21 business structure in the form of TNCs were created, but their contribution to the Cain's GDP is low. The same trend is also observed in Italy, Turkey and Russia.

Conclusions.

Modern business structure, as powerful voluntary integrated systems of self-governing economic structure of various organizational and legal forms, operating in a market environment or in a global Internet network (network business structures) have a decisive influence on the development of the country's economy.

The 500 largest companies in the world that are being researched annually by the American magazine «Forbes» in the «Fortune Global 500» rating are modern transnational corporations' foreign business structures. From the rating it can be concluded that the impact of these business structures on the economy of the country is decisive, although their contribution to the Second World War is less than 1%. The TNC itself is a catalyst for the development of the national economy, the creator of innovative products. The number of such structures in the world will increase annually, and their impact on the international economy will only intensify. To date, Ukraine has very few large business structures (less than 1%), which is associated with crisis processes in the country's economy. This is one of the factors why the country is weak in the Doing Business rating. So, if in 2018 Ukraine occupied the 76th place in the rating, then in 2019 it rose to five points to 71 place. The pace of positive changes in business was + 0.94% per year. However, Ukraine is included only in the category of «Easy Business». According to the rating of 2018, no major Ukrainian business structures has yet entered the world ranking of 500 most influential business entities – the transnational companies of the world «Fortune Global», which annually publishes the Forbes magazine. The rating includes only those global corporations, whose sales amount is not less than 1 billion dollars and the value of which shares is at least $ 5 per unit and also available to investors from the US (Shatska, 2016). Leading places are held annually by such powerful global business structures - global enterprises like Wal-Mart Stores Inc. (USA), Royal Dutch Shell (Netherlands), Exxon Mobile Sorp. (USA).

In the coming years, further development, effective management and integration of large business structures, and the use of different ways of influencing – from informal networks to threats of reputation of the country in the field of international relations on civil society and the state will strengthen their dominant position in the country and in the corresponding world industries that ultimately lead to the transformation of world markets and the creation of a global market (*Social and legal aspects …*, 2019).

References.

Constitutional Law (2018). Retrieved from: https://jurisprudence.club [in Ukrainian].

Entrepreneurship in Ukraine (2018). Retrieved from: mukachevo-rada.gov.ua [in Ukrainian].

Fortune (2018) *Fortune Global 500*. Retrieved from: http://fortune.com/global500.

Gerchikova, I. (2007) *Management: for higher education institution.* M [in Russian].

Gershanok, G.A., Shishkin, D.G. (2012). Value and classification of business structures. *Rosiiskoe predprinimatelstvo.* 13(22), 63-69 [in Russian].

Global Entrepreneurship Monitor (2018) *Entrepreneurship Context Index (NECI*. Retrieved from: www.gemconsortium.org.

Goncharov, S., & Kushnir, N. (2009) *Interpretative dictionary of Economics.* Kyiv [in Ukrainian].

Illyashenko, N.S. (2018) *Outstanding innovative development: theory, methodology, practice: monograph*. Sumi: TRITORIA [in Ukrainian].

Korsun, T.A. (2010). *Development of business structures in a changing competitive environment.* Extended abstract of candidate's thesis. Russia: ULAN-UDE [in Russian].

Koshelev, V.M. (2000) *Organization and functioning of the information-consulting service for agrarian manufacturers.* M. MTAA, 2000 [in Russian].

Koval, V., Prymush, Y., & Popova, V. (2017). The Influence Of The Enterprise Life Cycle On The Efficiency Of Investment. Baltic Journal of Economic Studies, 3(5), 183-187.

Krivenko, L. & Krivenko,S. Organization of business structures in the context of sustainable development. *Visnik TNEU* 4, 51-62 [in Ukrainian].

Law of Ukraine The Commercial Code of Ukraine (2003) *Vidomosti Verkhovnoyi Rady Ukrayiny*, 18, 19-20, 21-22 [in Ukrainian].

Nitsenko, V. (2014) Mechanisms for the sustainable development of agribusiness business structures on the basis of EC integration. *Economichnii visnik.* Retrieved from: https://knau.kharkov.ua [in Ukrainian].

Ropotan, S.V. (2012). Business structures in the system of economic relations. Zhurnal nauchnix publikatsii asparantov i doctorov, 114-117 Retrieved from: http://jurnal.org [in Russian].

Shatska, Z. (2016). Global enterprises: operating experience and development prospects. *Naukovii zhurnal "Virtus"* 5. Retrieved from:conference-ukraine.com.ua [in Ukrainian].

Shatska, Z.Y. (2018) The essence of the definition of the concept of «business structure» and approaches to its interpretation. *Naukovii zhurnal* Visnik KNUTD. Seria «Economichni nayki 6 (2018) Retrieved from: econ-vistnyk.knutd.edu.ua [in Ukrainian].

Social and legal aspects of the development of civil society institutions (2019). Warsaw: BMT Erida Sp.z o.o.

Technical dictionary. (2008). Retrieved from: http://www.ai08.org [in Russian].

The role of enterprise and entrepreneurship in a market economy (2018) *Economics.studio.* Retrieved from: https://economics.studio [in Ukrainian].

Tirpak, I.V., Tirpak, V.I., & Zhukov, S.A. (2011). *Fundamentals of Economics and Entrepreneurship.* Kyiv: KONDOR [in Ukrainian].

Tkacheva, L.E. (2010). *Basics of the processes of management of business structures.* M: INFRA [in Russian].

Zaichna, O.V. (2018). Entrepreneurship business as a factor in ensuring the competitiveness of the region. M*arketing and management y fokusi viklikiv novoi economiki,* 299-301 [in Ukrainian].

Zavadskii, I., Osovska, T., Ushkevish O. (n.d.). *Economic Dictionary.* Kyiv [in Ukrainian].

Marina Potetiuieva
PhD in Economics, Associate Professor,
Joint stock company «Ukrainian railways»,
Kiev, Ukraine

BASIC PRINCIPLES, METHODS AND FUNCTIONS OF THE FORMATION OF THE MECHANISM OF THE PROPERTY COMPLEX OF JSC "UKRANIAN RAILWAYS"

Abstract*. The property's management as the element of the company's management is direct to the achieving the goals of the company through the rational use of property potential, using the principles, functions and methods of economic management mechanism. The market system of management is characterized by the development of social relations with certain incentives and principles, and effective management of the company's property is ensured by the implementation of the system of principles of property management (general and partial). The effective property management system of JSC "Ukrainian railways" is organized on the principles which are deals with in the article. This system creates the basis for the high growth of the company, reaches the necessary end-points for its business and continuously increases its market value, which affects the company's capitalization. At the same time need to say, that in modern conditions implementation of the process of the analysis, planning and control of the company is using the great system of the methods and operations through which the necessary results are achieved. So the combination of these principles and methods provides forming the effective mechanism of management of the property's complex due to maximizing the company's welfare in the current and prospective period*

JEL Classification: R40

Introduction.

Fundamentals of scientific interpretation of the definition "management" were implemented by F.W. Taylor, H. Fayol, H. Ford. According to F.W. Taylor (1991) the management is understood as measures that provide "maximum profits for the owner and combined with maximum welfare for each employee" (p. 9). H. Fayol (1923) wrote: "Manage means to provide, to organize, to coordinate and to control" (p. 23). H.Ford understood management as one of the function which is direct to the achieving the goals and it must maximize the benefits from all available resources (Fayol, 1923, p.9)

Summarizing the views of the classics, we can say that management is a way to influence the resources (human, material and others) of the company for the achieving some results in the future.

Relevance of these definitions for the management of a company in the present conditions is obvious. But practical business management is mainly based on such techniques as intuition and improvisation. Management of the company as a complex economic system without a specific purpose and technology for its achieving is threatened with such economic consequences as temporary insolvency, loss of market positions, falling sales and, at worst, bankruptcy.

Modern science interpreted management as an element, function of organized systems of different origins, which ensures the preservation of their specific structure, maintenance of the regime, the implementation of their programs and goals (Rumyantcev, Yakovenko and Yanaev, 1985, p.157). So the economic management is a way of influencing the process of social work in accordance with objective laws of society's development. This type of management includes management of production and non-production sphere.

Some authors (Rumyantcev, Yakovenko & Yanaev, 1985, p. 36) understand management as the process of management - the implementation of a combination of operations and procedures that provide the process of influencing on the managed system and leads to changes in accordance with the goals and interests of the company.

As for companies resources management some scientists (Blank, 1998, p. 58; Kovalyov, 1995, p. 336; Stoyanov, 1994, p. 16; Safronova, 1997, p.19), the management of property is understood as the company's activities that are achieving the goals through rational using property potential on the principles, functions and methods of economic management mechanism.

In this regards the property's management should be understood as target complex program of influence on the property and its elements, which implements a systematic approach to property management. The comprehensive program should aim to the quantitative and qualitative parameters of conditions and efficiency of the property's using in accordance with the company's goals and objectives and should ensure the effectiveness of the their using. Therefore, management of the company's property combines both the program and the toolkit which ensures its implementation.

1. The main principles of the property complex management.

The market system of management is characterized by the broad development of social relations, taking into account certain incentives and principles, and effective management of the company's property is ensured by the implementation of the system of principles of property management, which can be grouped into two divisions - general and partial. To the general principles of the company's property management can belong the following:

The principle of holism consists of two parts: the principle of coordination and the principle of integration. Each of them relates to its measurement of the property's complex of the company. The property complex of the company is divided into levels, each level is on unit, which differ in functions, qualitative characteristics, etc. Coordination involves the interaction of units of the same level, integration - between units of different levels.

The principle of coordination establishes that the activity of any part of the company's property complex can't be planned effectively independently of other units of this level.

The principles of integration determine that planning independently at each level can't be such effective as planning interdependencies at all levels. It is aware, for example, that a property management strategy or practice that has formed on a same level of the company is often a problem for other levels. So, the problem that has appear on the same level can have the best solving due to changing strategies or practices of a different level.

The principle of systematic means the consideration of each element of the property complex as part of a larger system (the whole property complex of the company) into which it includes. Also it provides for the consideration of each phenomenon of the development of the company's property not in isolation, but in its relations with other phenomena. The systematic also is that the measures for managing property should not be fragmented, dispersed and occasional. The basis of these measures are strategic decisions which determine the general prospects for the formation and functioning of the company's property complex, and according to these strategic objectives, more private tactical and operational tasks arise. Such a hierarchy of goals ensures systematic management of the property complex of the company.

The principle of adaptability provides the possibility of a property management system to adapt or to accommodate the constant changes that are both in the property complex itself and in the external environment in order to neutralize the effects of negative phenomena.

The principle of proportionality provides for so solutions for managing the property complex of the company, which naturally combines the formulation of tasks and determines the means and methods for their implementation. In order the formation and using of the property complex as a result of economic decisions shouldn't lead to disproportions in the company's development, but will create new effective proportions. In particular case, the proportionality consists in the establishment and maintenance of effective proportions between the constituent elements of the property complex of the company.

The principle of commitment requires the development of the property complex of the company be carried out on the basis of goals consisting of a variety of plans (plan of using the main funds, investment plan, logistics plan, financial plan), which establish the most important directions of development of the property complex and its elements, the proportions between the elements of the property complex and determine the means of goals' achieving. The principle of economy is one of the defining elements in the management of a property complex. It means the desire to achieve maximum results with minimal cost. Implementation of this principle involves, first of all, the formation of an efficient structure and the most rational using the company's property. As a management's principle economy also means the selection of such decisions, which shorten the costs of the formation and the property complex using, as well as management. Efficiency includes the reduction and elimination of the waste of the elements of the property complex in the process of production and circulation.

The principle of synergy is a phenomenon of self-organization when due to the interconnections in the system of the property complex of the company and its environment could be achieved an increasing of the property's complex activity. Consequently, without such interconnections, the result of activity would be less. The economic basis of synergy is the ability to ensure the outcome of the joint efforts of several separate entities, which exceeds the result indicator of their independent activity (Poplavska, 2001).

The principle of corporate governance involves the redistribution of company's profits to the formation and development of the property complex as a whole.

The principle of dynamic involves necessity to take into account changes in the quantitative composition and in the valuation of elements of the property complex. Also, this principle involves changes in conditions of production and management where the elements of the property complex are. During managing a property complex it is necessary to take into account the physical and moral depreciation of fixed assets and intangible assets, a possible reassessment of fixed assets, and also need to predict the trend of changing conditions of production and management.

The principle of optimality means necessity to determine all possible variants of using the property of the company and choose from them the best option. The best way to manage a property complex is considered the variant which ensures the implementation of the clearly marked production and commercial goals.

The principle of substitution implies the company's ability to have choices during the transformation some elements of the property complex to another (for example, cash in inventory, fixed assets, intangible assets, or vice versa). In accordance with this principle, the structure of the property complex will depend on the required of the company assets in the market and the possibility of implementing additional elements of the company's property complex at market prices in the short term.

The principle of flexibility requires the inclusion some elements in each structure of the property complex. These elements should help predict changes and react to them. Property complex with an inflexible management structure has risks failing to address the problems of the economic, technical, political and social changes.

The principle of financial sustainability involves support of a property complex, which ensures the company's development on the basis of growth of profits and capital to the capacity to pay and creditworthiness under the conditions of the permissible level of risk. For the partial principles can be attributed to:

The principle of integration involves the integration of property management in the overall management system of the company. Ensuring the effectiveness of all areas of the company which directly or indirectly associated with ensuring the high-value property using, increase its profitability. Property management is closely linked to all other areas of financial management, with operational, investment, innovation and other types of functional management. This determines necessity of organic integration of property management with other functional management systems and the overall management system of the company.

The principle of the complex formation of management's decisions implies all managerial decisions in the field of the formation and property using are closely interrelated and have a direct or indirect effect on the final results of financial activity as a whole. So property management should be considered as a comprehensive functional management system that provides the development of interrelated management decisions, and each of them contributes to the overall impact of the company.

The principle of high dynamism of management determines the most effective management decisions in the field of the formation or property using in the operating or investment process, developed and implemented in the company in the previous period, can not always be reused in the subsequent stages of company's activities. First of all, this is tied to the high dynamics of environmental factors at the transition to a market economy, and in the first place – is related to the changing financial markets situation or commodity markets situation. In addition, internal conditions of the company's activity change over time, especially at the transition to the following stages of its life cycle. So, high dynamism should be a feature of the property management system and it must take into account the changing environment factors, the potential for the formation of financial resources, the pace of economic development, the forms of organization of production and financial activities, financial status and other parameters of the company.

The principle of approaches' variability to the development of individual management decisions suggests the preparation of each management decision in the field of property management, its using in the operating or investment process should take into account alternative opportunities for activities. In the case of alternative management decisions in this area, their choice for implementation should be based on a system of criteria that determines the financial ideology, financial strategy or specific financial policy of the company in the field of functional management systems. The system of such criteria in the field of property management set by the company itself.

The principle of focusing on the strategic goals of a company's development means there is no matter how effective is one or another project of management decisions in the field of using property in the operational or investment process in the current period, they should be rejected if they conflict with the mission (the main aim of the activity) of the company, strategic directions of its development, undermine the economic basis of effective property using in the future period.

An effective system of company property management, organized on the basis of the above principles, creates the basis for the company's high rates of development, the achievement of the necessary final results of its business and the constant growth of its market value, what affects the company's capitalization.

2. The methods of the property complex JSC "Ukrainian railways" management

At the same time, it should be noted that in modern conditions of the implementation of the process of analysis, planning and control of the company and its property, a large system of methods and techniques is used. Due to them the desired results are achieved.

The following methods are among the main that are used in the process of managing the property of the company:

The method of the systematic approach means the learning of the company's property complex as an integral set of elements in relationships and ties between them. Due to this method, it is possible to study and predict the assessment of the object's behavior as a system with all the factors that influence on its activity. This method can be widely used in studies with a comprehensive study of the company's property potential, the determination of the proportion of development, etc.

The method of factor analysis deals with determining the magnitude of the influence of individual factors on the growing of the efficient indicator with the help of chain substitutions, absolute differences, relative differences, proportional fission, logarithm, and others. The factor analysis can be either direct (analysis) or reverse (synthesis). It must be said that it is used for the exploration of the relationship between variables in order to short the number of factors of influence to the most significant. That is, on its basis it is possible to identify the main structural elements that are appropriate to manage systematically, as well as factors that have a direct impact on the property complex of the company.

The graphical method is effective for statistical researches in the studying of the complex interconnections of socio-economic phenomena and processes in the dynamics. So it is the method of notional images of statistical data with the help of figures, lines, dots, and various symbolic images.

Properly constructed graphs are visual, attract attention, are expressive and are memorable. You need to know in constructing a graphic, what is the purpose of the graph, to learn the material and to have a graphing technique. The graphical method is widely used for ongoing monitoring of the implementation of the plan for the formation and use of property.

The method of diagnostics is the exploration and evaluation of the company's assets, the main purpose of the diagnostics of property is to assess the company's assets to perform its own efficient economic activity. The definitions "diagnostics" (from the Greek diagnostikos - able to recognize) is literally translated from the Greek as the recognition of the object due to the secondary indicators. The essence of this method is to establish and to explore the features, to measure the main characteristics that reflect the condition of assets for predict possible deviations from the stable, average, standard values and prevention of violations of the normal operating of the company.

The method of cluster analysis is a method of multidimensional statistical research, which includes the data containing information about sample objects and their ordering in relatively homogeneous, similar groups. Thus, the essence of cluster analysis consists in the implementation of the classification of research objects with the help of numerous computational procedures. As a result, "clusters" or groups of very similar objects are created and they are combined in such way that the differences between objects of one cluster would be smaller than other clusters in order to research them.

Unlike other methods, this kind of analysis makes it possible to classify property objects through not only one feature, but through the several in parallel. This clustering method should be used to identify the structure in the data, which is not easy to find in a visual inspection or with the help of experts. The simulation method includes the formation of system of knowledge about the methodology and tools for constructing and using different types of optimization models in assessing the property complex of the company. So, modeling is the design of a model on the basis of preliminary study of the object, identification of its most essential characteristics, experimental and theoretical analysis of the created model, as well as necessary adjustments based on the received information.

DuPont's financial analysis method primarily examines the ability of the company to generate profit effectively, reinvest it, strength momentum. The splitting of main indicators into their constituent factors allows us to determine and provide a comparative description of the main causes that affect the change of a given indicator and determine the pace of economic growth of the company's property complex. This method involves splitting the capital profitability into the product of the profitability of assets and the financial leverage, with each of the factors being an independent content financial indicator. The DuPont model uses main factors such as sales profitability, asset turnover, profitability, return on equity, financial leverage.

The planning and forecasting method is a set of methods and techniques that allows to made convincing predictions regarding the future development of the property complex as a whole. It is based on the analysis of the company's property for a certain period, external and internal factors of influence, as well as their quantitative changes. So, planning involves the development of measures that determine the sequence of achievement of specific goals, taking into account the possibilities of the most efficient resources' using in the future period and achieve them with the smallest wastes. At the same time the forecasting is based on studying the laws of development of the property complex of the company, identifies the most probable and alternative ways of its development and creates a basis for the selection and substantiation of the company's policy in this area in the future. The subject of forecasting is the qualitative and quantitative changes that take place in the management of the property complex under the influence of mixed or individual factors within the predicted period.

Forecasting applies to such control processes that, at the time of forecast development, are possible in a rather small range, either completely impossible or possible, but require the consideration of actions of such factors whose influence can't be completely or uniquely determined. Forecasts of economic phenomena and processes are developed in the form of qualitative characteristics of development (characteristics of trends and expected changes, and in the simplest case, statements about the possibility or impossibility of occurrence of any events) and quantitative estimates of predicted indicators, as well as their values. The correctness of the initial theoretical prerequisites and the methodological foundations of the forecast influences decisively on its results and the possibility of its practical using.

Thus, the combination of the above principles and methods provides the formation of a mechanism for managing of the property complex by maximizing the company's welfare in the current and prospective period. It should be noted that in order to form a balanced, capable self-growth of the property complex of the company, it is necessary to carry out a search, selection and processing of the most effective ways of using the property complex of the company, as its separate components and as a whole system, taking into account the needs of specific groups of property that are closely intertwined with the interests of the company.

3. Functions of forming of the mechanism of the property complex JSC "Ukrainian railways" management.

The mechanism of the property complex management of the company should be aimed at solving the following main tasks of property management:

1. Formation of the required volume of company's property, which provides the given rates of economic development. This is realized by determining the sufficient volume and the required composition of property for use in the operating and investment process, optimizing of its individual types and attracting its most efficient varieties from the standpoint of productivity and potential profitability of future use.

2. Ensuring maximum profitability of property what is used with the lowest level of financial risk. Maximization of profitability of assets is achieved due to their use in the most effective types of activities and business operations of the company.

It should be taking into consideration the maximization of the level of profitability of the property is achieved, as a rule, with a significant increase in the level of financial risks associated with its use, as there is a direct link between these two indicators. Therefore, maximization of profitability of the used property must be ensured within the limits of tolerable financial risk, the concrete level of which is established by the owners or managers of the company, taking into account their financial mentality (relation to the degree of tolerable risk in doing business).

3. Ensuring minimization of financial risk of using property with the lowest level of profitability. If the level of profitability of the used property is predetermined or planned in advance, the important task is to reduce the financial risk of operations or activities that ensure the achievement of this profitability. Such minimization of the level of risks can be ensured through diversification of business operations and activities of the company associated with the use of property; avoidance of the certain types of financial risks; effective forms of their internal and external insurance.

4. Ensuring constant solvency of the company through sufficient level of liquidity of the property. First of all it’s solved through the efficient management of the balance of cash assets. However, it should be notice that over-formed monetary assets, ensuring a high level of the company’s solvency, lose their value under the influence of the factors of time and inflation. So, the task of maintaining a sufficient level of solvency is among the optimization. Its solving needs to take into account different economic interests of the company.

The required solvency is also ensured by the high level of liquidity of finished product, accounts receivable, short-term financial investments and some other types of assets.

5. Optimization of company property's turnover. It's solved by efficient management of monetary and material flows of property in the process of separate cycles of their turnover; ensuring the synchronization of the formation of certain flows' types of property associated with operating and investment activities; minimizing the total cost of organizing the turnover of the company's property in all its forms.

All above tasks of property's complex management are closely connected with each other, although some of them are of a multi-directional nature (for example, ensuring maximization of the profitability of the assets used in minimizing the level of financial risk; ensuring constant solvency and ensuring the maximum profitability of assets, etc.) So in the process of the property's complex managing the individual tasks should be optimized with each other for the most effective implementation.

The system of the property complex management realizes its main tasks through the implementation of some functions. These functions are divided into two main groups, which are determined by the complex content of this management system.

1. Functions of the property's complex management as a management system. These functions are a part of any management process (any management system), regardless of the type of company's business, its organizational form, size, ownership, etc. In the management theory, these functions are characterized as general, the main ones are:

- planning the use of the company's property complex is associated with the development of a system of current plans and operational budgets for all major areas of the formation and using the company's property. It should be noted that the basis of such planning is the developed strategy of property complex development, taking into account a clear plan of action at each stage of development of the company according the strategic goals;

- doing the strategy of development of the company's property complex. In the process of implementing this function, a system of goals and target indicators of financial activity in this area for the long-term period, based on the strategy of the company's development and forecast of the parameters of the external economic environment, is formed; the priority tasks of using assets in the near future are defined and the policy of the company is developed taking into account the main directions and forms of property using. Thus, the strategy for the property complex of the company is an integral part of the overall economic and financial strategy of the company as a whole;

- analyze of various components of the property's complex functioning. During the implementation of this function, an express analysis of individual financial transactions of the formation and property's using is carried out; the dynamics and level of the main indicators of the efficiency of the property's using in certain types of company activities are investigated; a fundamental analysis of factors is done in the analyzed period and their affecting on the individual indicators of the functioning of the company's property complex;

- creation of the effective information management system of the company's property complex is a part of the substantiation of alternative managerial decisions. In order to implement this function it is necessary to determine the scope and content of the information needs of the property management system; to form external and internal sources of information involvement for these needs; to organize continuous monitoring of the main development's parameters and using of the company's property, as well as the conditions of the external economic environment;

- making a control over the implementation of the management decisions about the effective usage of the property complex. Realization of this function is connected with the creation of internal control systems in the company; sharing the functional duties between separate structural divisions of the company; definition of the system of control indicators; rapid response to the results of the control;

- the development of an effective system for stimulating the implementation of management decisions about the property's using involves the formation of a system of incentives and sanctions to executive management in the context of some individual structural subdivisions of the company for the implementation or dereliction of established target financial indicators, financial standards and scheduled tasks for the effective use of property.

2. Functions of the company's property complex management as a special management area. Management theory considers these functions as specific, the main are:

- formation of the company's property complex. It includes optimization of the volume and composition of property in the business of the company; selection of the most effective directions of financing of property complex development; ensuring maximal development of the property complex; management of attracting of the financial funds to the formation of the company's property complex;

- management of the using of property in the operating process of the company, which includes optimization of the proportions of negotiable and non-negotiable assets in the operating process of the company; substantiation of the directions of the most effective using and timely renewal of certain types of non-current assets; selection of the most effective forms of renovation of fixed assets and intangible assets; search and realization of reserves for increasing the efficiency of company's current assets using;

- management of the property's complex using in the investment process of the company includes optimization of the proportions of assets formed by the main forms and directions of investment activity of the company; assessment of investment attractiveness of projects and selection of the most effective of them according the criterion of profitability and risk level; development of real investment programs, which include tasks of the company's development and ensuring the efficiency of the investment process;

- movement control of property complex in the process of its turnover involves the formation of cash and material flows of assets in the company; synchronization of their individual types by volume and time; identification and realization of possible reserves of acceleration of the company's property complex turnover;

- risk management associated with the property's using. In the process of implementing this function, the constituent financial risks about using the company's property complex are determined; assessment of the level of these risks and the amount of possible financial losses are made; the system of measures to minimize individual financial risks, as well as their insurance, is substantiated.

The general scheme of forming the mechanism of the property's complex JSC "Ukrainian railways" management is presented in Fig.1

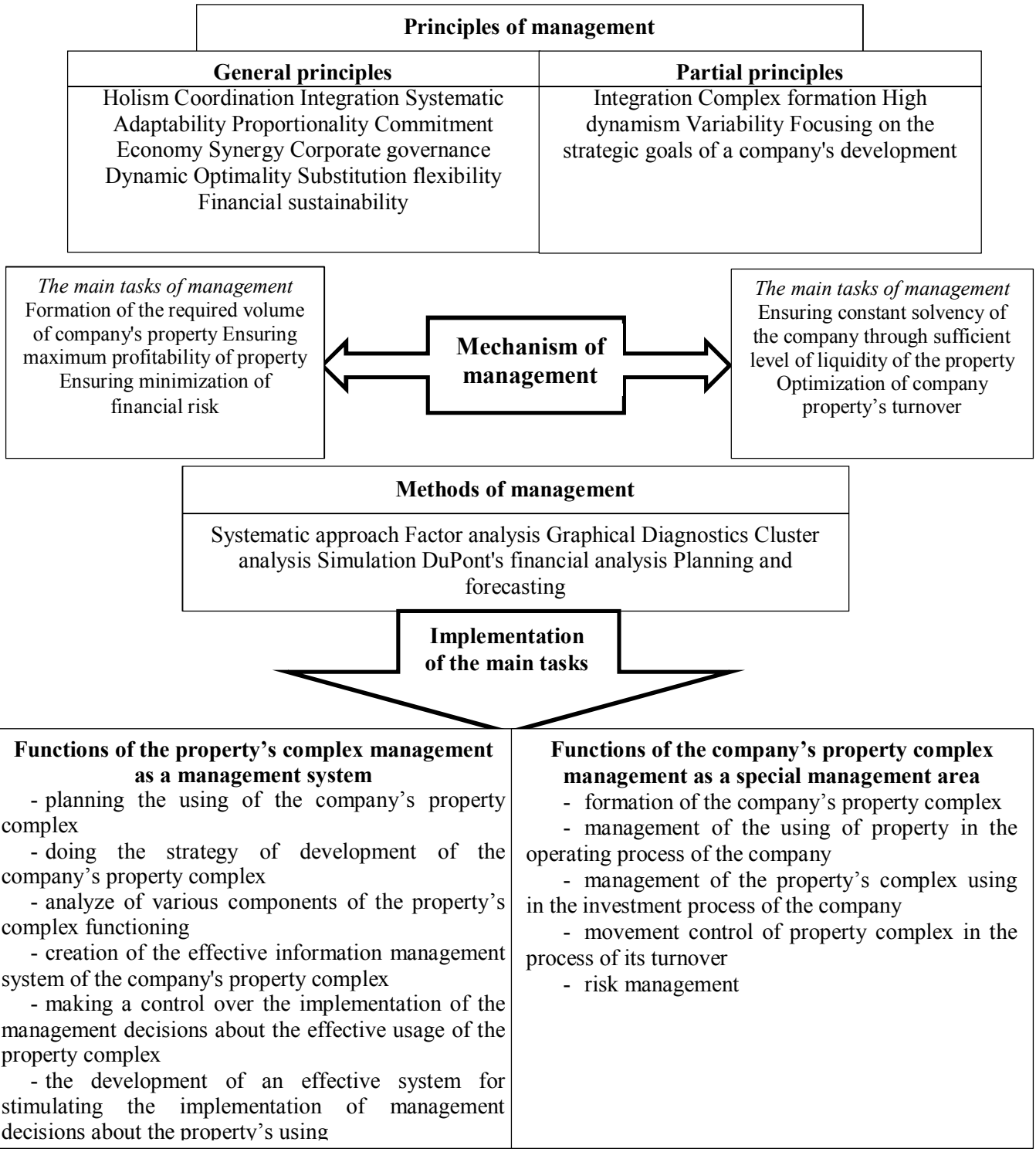


Fig. 1. The general scheme of forming the mechanism of the property's complex JSC "Ukrainian railways" management

The result of the implementation of the principles, methods of determining of the effectiveness of the company's property complex's functioning, as well as functions of the formation of the mechanism of property's complex management is determination of the areas of priority management of the property complex JSC "Ukrainian railways".

The direction - is the way of activity, development, orientation of some action, the phenomenon [10].

1. Orientation of the company's activity on the existing market of the railway transport and services. This direction can be called a cost-saving method.

2. Market development - involves expansion of its volume through penetration into new geographic territories, including abroad; the conquest of new segments of the market, where there is shortfalls in supply.

3. Formation of improvement of investment and innovation development of property potential of business.

4. Effective public administration in the field of company's property management.

The above directions don't influence as a single on the management system of the company's property complex, but only in combination and in a certain sequence, depending on the particular situation, they will contribute to the development of property potential of JSC "Ukrainian railways ".

Formation of the priorities of the company's property complex's development is based on the exploration of the possibilities of implementing certain changes under the conditions of influence of both internal and external (institutional) factors. This allows us to create a generally favorable environment for the development of JSC "Ukrainian railways".

Conclusions.

The theoretical and practical consideration of the investigated principles, methods and functions will contribute to the creation of the effective mechanism of the formation of property's complex JSC "Ukrainian railways" management and its improvement for the managerial decisions that will be aimed at the rapid and correct orientation of the company in the market economy management system. At the current stage, during the forming of the mechanism of the property's complex management of the company doesn't pay attention to the principle of corporate governance. Implementation of this principle is a priority in assessing the property of an economic unit, because on its basis the owner distributes the net profit, part of it is directed precisely to the formation and development of property potential.

If profits aren't used in economic activity, the property potential will not be formed as well as the national wealth that is created at the micro level.

Moreover, I think that in forming of the mechanism of property's complex management is appropriate to focus primarily on building an effective model of its assessment in order to ensure sustainable development of the company.

So, on the basis of the discussed above conclusions we can see that in the current conditions of forming the mechanism of the property's complex of the JSC "Ukrainian Railway" management it is necessary to take into account the following requirements: ensuring the interconnection of the property's complex management with the management of production and economic activity of the company; taking into account the principles and the patterns of development of property's complex management; complex accounting of management functions within the overall management cycle of the company's property complex.

References.

Blank, I.A. (1998) The management of the Trade Company. Moscow: TANDEM: ECMOS.

Dictionary of Modern Ukrainian (2007). Kyiv: Irpin VTF "Perun"

Kovalev, V.V. (1995) The financial analysis: the capital management. The investments' choice. The analysis of the accountability. Moscow: Finance and Statistics.

Poplavska, J (2001) The effect of interaction (synergism in economy). The bulletin of the National Academy of Science of Ukraine, №5, p.39-42

Rumyantcev, A.G., Yakovenko, E.G., Yanaev, C.Y. (1985) AToolkit of the economy science and practice. Moscow: Znaniye.

Safronova, K.I. (1997) The management of the money flow of the company. Vladivostok : DVGAEU.

Stoyanova, E.S. (1994) Financial management in the conditions of inflation. Moscow: Perspectiva.

Taylor, F.W. (1991) The Principles of Scientific Management. Moscow: Controlling.

Fayol, A. (1923) Industrial and General Administration. Moscow: The central Institute of Labor.

Nika Ilkova
Head of the laboratory of economic and commodity researches,
Dnepropetrovsk Research Institute of Forensic Examinations,
Prydniprovska State Academy of Civil Engineering and Architecture,
Dnipro, Ukraine

FUNCTIONING OF THE BANKRUPTCY INSTITUTE IN DIFFERENT COUNTRIES OF THE WORLD: EXPERIENCE FOR UKRAINE

Abstract*. The necessity of taking into account the foreign experience of the functioning of the bankruptcy institute in different countries of the world with the aim of creating in Ukraine operating structures in this area has been substantiated. The theoretical basis concerning the history of the bankruptcy institute development has been investigated. The basic approaches to its classification in world practice have been identified. A comparative analysis of bankruptcy laws in France, Germany, the United Kingdom and the United States has been carried out. A historical perspective is considered, pro-creditor and pro-debtor approaches to the bankruptcy institute are compared, up-to-date data on the number of bankrupt enterprises in each country are given. Two key tasks that are common to the bankruptcy institute in most countries of the world have been identified. According to the results of foreign experience analysis of the bankruptcy institute functioning, its evaluation criteria have been established. The general tendency of the considered countries for the enterprises' improvement and reorganization is noted.*

JEL Classification: E02, E60, O11

Introduction.

In the modern economy, the bankruptcy institute is an instrument of state regulation of the market, since due to the existence of this phenomenon in the economic system there is a natural selection, during which more efficient economic entities continue to exist. It is obvious that directing efforts to restore enterprises that have become bankrupt and not to destruct them is more favorable policy for the state in the field of this institute functioning. The reason is that at the improvement of the company society on the one hand will receive a new efficient economic entity, and on the other hand – will keep the stock of synergistic value, which was laid in the organization.

Simultaneously, the restoration of the debtor's solvency is only one of the functions of the bankruptcy institute. The existence of the bankruptcy institute is conditioned by the need to protect the state, employees, property owners, as well as management bodies of enterprises and organizations from the negative manifestations of insolvency, the likelihood of which is objectively present in a market economy. The development and implementation of efficient measures to identify and overcome crises of various levels become an integral part of national programs of economic growth and development as well.

The bankruptcy institute in Ukraine is at the stage of forming and developing an efficient mechanism. In order to create existing structures in this area, consideration of the foreign experience of this institute functioning in different countries of the world plays an important role. This will distinguish between those approaches that positively influence the development of the national economy, by restoring the solvency of enterprises and preventing their liquidation.

1. Theoretical principles of the bankruptcy institute development at the macro level.

The development of the bankruptcy institute has a very long history. Moreover, it can be considered to some extent that the efficiency of this institute is determined by the level of the national economy development. The higher the culture of a nation, which represents the integration of legal, economic, social, artistic and other cultures is, the more perfect this institute is. Moreover, according to some scholars, the inevitable phenomenon of any national economic system is the bankruptcy of its entities, as a reflection of the objective processes of structural adjustment of the economy as a whole (Nosan, 2016).

According to the key approaches to the bankruptcy institute classification created in world practice, there is a distinction between the pro-debtor, neutral or pro-creditor orientation (a more detailed classification is possible). Such an assessment is based on the analysis of the provisions of the national insolvency (bankruptcy) law or the results of its application. In different countries, these concepts acquire different meanings. Some experts classify the pro-debtor and pro-creditor legal systems only based on whether the legal system allows the debtor governing bodies to retain their powers during the bankruptcy procedure and to negotiate with creditors from the perspective of force (Jackson, 1982; Lieb, 2006). Others consider that the pro-debtor's legal systems include those legal systems, which include mechanisms that allow the debtor's business to survive and save jobs irrespective of whether the debtor's governing bodies will be removed from it and whether the debtor business will move to another owner (Porta et al, 1998). The third ones classify legal systems according to the balance of interests of secured and unsecured creditors. This view is based on the fact that secured creditors are the main beneficiaries of the pro-creditor regime, which provides for a maximum liquid litigation procedure (Hart, 2000).

The conceptual question – which approach is better in terms of national interests: pro-debtor or pro-creditor – causes disputes between experts as well. From the standpoint of the overall economic outcome of the country's development, the credit system is, of course, far more efficient than that which advocates the interests of the debtors. However, investors are not bothered by the bankruptcy institute insolvency, in case adequate rehabilitation and liquidation procedures are envisaged. An important point is the infrastructure's efficiency that provides the functioning of this institute. Although a pro-debtor system that functions consistently and provides transparent rules of the game, is more trustworthy for the investors than fundamentally pro-creditor, but at the same time the legal system is unstable and unpredictable in the variation of decisions.

It should be stated that the use of pro-creditor or pro-debtor model in the bankruptcy institute construction leads to certain target results. Thus, for example, the bankruptcy of individual organizations leads to the development of the competitiveness of the economy, since: the place of the bankruptcy organization is taken by more successful firm with certain advantages; the state, as a creditor, replenishes the budget at the cost of cash receipts received during the implementation of the bankruptcy estate; other creditors also have the opportunity to obtain the debtor's property assets.

At the same time, the bankruptcy process has a negative side, which creates serious problems: the disintegration of the labor collective, unemployment, growth of social tension, criminalization of business, etc. (Ilkova & Rynkevych, 2018). In order to solve the negative trends, the state takes appropriate measures. So the state policy in the field of bankruptcy can be protective or offensive. And depending on the degree of activity policy is divided into active or passive one.

The passive offensive policy includes an additional opportunity for the debtor to be rehabilitated, since the state is limited to controlling the practical use of legislative tools, and simultaneously provides for counteracting intentional bankruptcies. Active defense policy seeks first of all to minimize the negative social consequences of bankruptcy and protect domestic production. The active-offensive policy is implemented under the considerable influence of state structures in solving the problems of bankrupt organizations, for example, as it is in Germany.

It should be noted that for the domestic economy an active offensive system that will allow them to get rid of loss-making organizations and improve the competitiveness of production is considered to be the most preferable. To this end, it is necessary to increase the role of the state in the process of the bankruptcy institute functioning.

One of the most famous researchers of the institutes and Nobel laureate Douglas North in the program article "Institutes" (North, 1991) defined them as follows: "Institutes are human-made limitations that structure economic, political and social interactions. They consist of informal restrictions (sanctions, taboos, customs, code of conduct) and formal rules (constitution, laws, property rights)." According to D. North, the institutes determine the palette of choice of economic entities, transaction and production expenses, profitability and expediency of one or another economic activity. Institutes determine the system of incentives in the economy and set the direction of change - economic growth, stagnation or decline. It should be noted that economic and political institutes interact with one another: if political power is a monopoly of a narrow group, then the property rights of all others can not be well protected. On the other hand, if economic institutes lead to an uneven distribution of resources, then political institutes can not be democratic. Based on the above mentioned, the bankruptcy institute is one of the main institutional regulators of interactions between economic entities.

It should be stated that in order to ensure the efficient functioning of the national economy as a whole, the excessive pro-creditor or pro-debtor approach to the regulation of the bankruptcy institute can hardly be recognized as justified. In light of this researches of specialists, concerning the history and prospects of the bankruptcy institute seem interesting. So, according to F. Wood (Wood, 2007), the history of the institute of insolvency (bankruptcy) is described as a movement from "repression of the debtor – to protection of the debtor." In turn, B. Mann (Mann, 2009) believes that with the development of the bankruptcy institute, its rethinking and redefinition "from sin, blame – to the result of risk, from moral failure – economic failure" takes place.

According to the research by P. Di Martino (Di Martino, 2005), in the 19-20th centuries economic transformations, cultural achievements and general institutional changes had a significant impact on the structure and functioning mechanism of the bankruptcy institute. Western countries have witnessed industrialization, differentiation of companies ownership, control over them, and changes in society's attitude to debt formation issues. Former bankruptcy institutions, used to deal with pre-industrial economies and underdeveloped credit markets, have proved unable to function efficiently in a rapidly changing environment. In this regard, mainly from the middle of the 19th century (a little earlier – in the UK) the insolvency (bankruptcy) law has been rethought and changed. In spite of the similarity of the reasons that led to the transformation of insolvency (bankruptcy) law in various Western countries, as a result, different modes of operation of the bankruptcy institute were developed in England, France, Germany, Italy and the United States. Regulation of the balance of the debtor and creditors interests, as well as the tendency to eliminate or ensure the survival of the debtor in these regimes acquired different forms.

As early as in 2005, representatives of the non-European scientific community, in particular N. Martin (Martin, 2005), noted that, compared with the US, the bankruptcy institute of many European countries could be considered to be aimed at punishing debtors rather than rehabilitating them. By the beginning of the 21st century, many European countries understood that the existing bankruptcy institute is not responding to new challenges: achieving economic results that are potentially better than those provided by liquidation can be achieved by maintaining and potentially improving a company's business through rationalization (Parry, 2004). As a result, during this period significant changes were made to insolvency (bankruptcy) law of a number of European countries. According to B. Wessels (Wessels, 2014), despite the fact that different European jurisdictions still have different approaches to the regulation of insolvency (bankruptcy), there is a significant propensity to conduct rehabilitation procedures for debtors as an alternative to eliminating them. In many cases, the very provision of Chapter 11 of the USA Bankruptcy Law (Warren, 2014) serves as a model for change. In turn, K. Bridge notes that for the initial stages of the bankruptcy institute, "treatment" of debtors was not typical and the bankruptcy procedure was carried out solely in the interests of the creditor (Bridge, 2013).

The attitude to bankruptcy of enterprises radically changed in the second half of the 19th century, when many American railway companies were in a state of bankruptcy. Given the strategic importance of the railroad industry in the development of the US economy, it was necessary to look for ways to mitigate the negative effect of such a situation in the industry. Appropriate decisions were initially shaped by the judicial system, which developed common tools aimed at reorganizing the company, protecting its assets and reaching agreement with creditors. In turn, the state has come to recognize the bankruptcy institute as a necessary element of economic development, taking into account the effect of business risks, an institute that has become known for its liberal approach to solving financial failures.

Currently, the US Bankruptcy Institute is considered one of the leading in providing protection for the debtor. The legislative model for regulating financial recovery, which preserves the general rules of authority of the debtor's governing bodies, is a reflection of the very essence of the fresh start doctrine, which maintains faith in the debtor's ability to continue managing its affairs independently. This doctrine essentially influenced the economy of European countries, which initiated measures to strengthen and intensify economic processes.

Therefore, according to the American Dun & Bradstreet, the number of bankruptcies in the world is declining, and in 2016 reached record low rates in a number of economically developed countries due to stimulating monetary policy and ultra-low interest rates in developed economies. Thus, due to the improvement of the economic situation, stimulating monetary policy, the decline in the number of bankruptcies occurred in 16 out of 23 surveyed European countries for the period from 2014 to mid 2017, including France (minus 9%), Spain (on 18%), Portugal (minus 23%), Sweden (5%). The number of German companies recognized as bankrupt, decreased by 6% – to 1.8 thousand per month, due of the weakness of the euro, which stimulates export growth as well. In Britain, which announced Brexit, the number of bankrupt companies grew in 2016 to almost 3,500 per month, but in 2017 the situation improved. In the USA, the number of companies that went bankrupt in 2017 was 2% less than a year earlier. At the same time, fluctuations in the number of enterprises declared bankrupt in this country are more balanced, as well as in Germany (Fig. 1) (Global bankruptcy report, 2017).

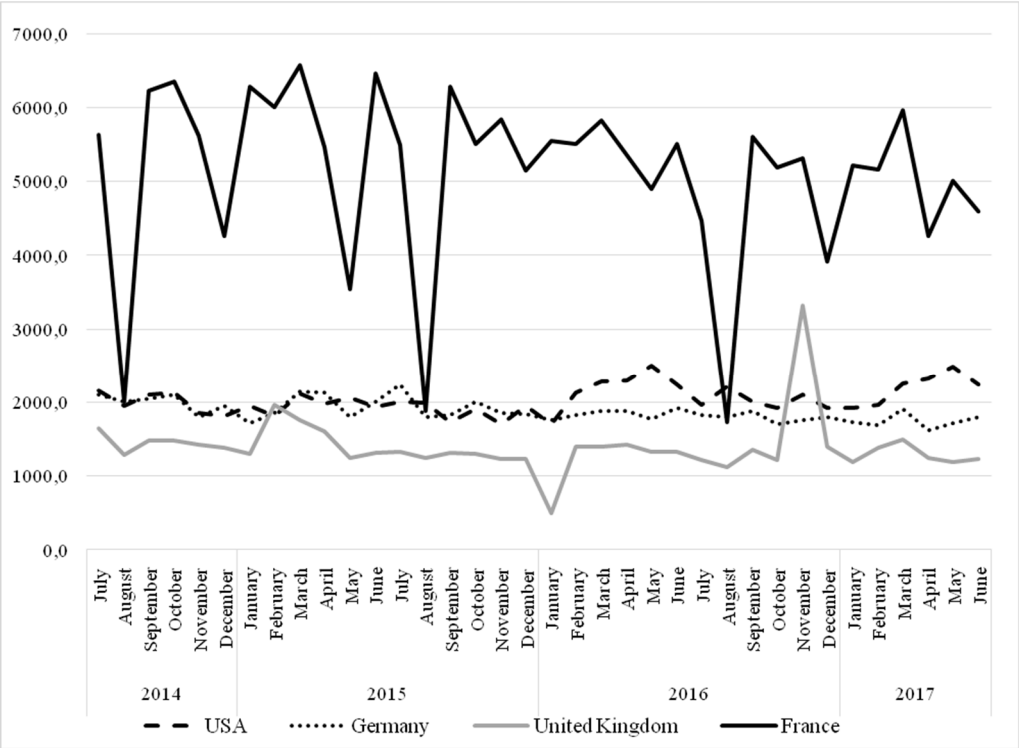


Fig. 1. Number of enterprises declared bankrupt, 2014-2017.

Source: compiled by the author based on (Global bankruptcy report, 2017).

2. The functioning of the bankruptcy institute in the USA, Great Britain, Germany and France.

As practice shows, in the world there are serious differences in the regulation of financial insolvency, and affects the absolute figures for the number of bankruptcies. Let us consider in more detail the main provisions of the bankruptcy institute functioning in different countries of the world. The term "bankruptcy" in the **USA** is applied to both corporations and individuals and means any type of insolvency procedures. In the USA, the right to bankruptcy is one of the constitutional rights, since it is aimed at protecting the economic interests of citizens as a weak part in relations with legal entities and the government.

In this case, the purpose of the bankruptcy institute is not to eliminate, but to rehabilitate, restore the organization, provide certain assistance. Usually the debtor (a voluntary option) initiates the bankruptcy procedure. However, a possible and compulsory version of the debtor's bankruptcy – according to the creditor's application. In this case, it should be proved that the debtor does not pay his debt obligations in the period established by the agreement. Moreover, to submit an application, the debtor must at his own expense complete a certain educational course on debt and bankruptcy. In the case of a voluntary order, the debtor is not required to justify somehow his decision, nor is he obligated to comply with certain criteria of insolvency.

In the case of restructurisation, the debtor retains ownership of his property and makes payments from his income to creditors through the manager. In order to be released from debts, the debtor must make all payments stipulated by the plan. During the implementation of the plan, the debtor is protected from creditors' claims, as well as other attempts of creditors to obtain a debt. In the USA, within ten years after the bankruptcy is recognized, a former debtor cannot borrow from a bank. In addition, in 2010, rules according to which all financial institutions in the world should, from July 1, 2014, disclose data on the accounts of private American taxpayers (individuals and legal entities), in case their share in such accounts exceeds directly or indirectly 10% were adopted. The consequence of this norm implementation was the closure or refusal to open many accounts of USA residents by foreign banks. For example, in the European Union, the four largest banks, accounting for 81% of correspondent accounts, closed one-third of the accounts of American taxpayers in 2014 (Kirillovyh, 2015). An important feature of the American system is the obligatory interview between a debtor and a credit advisor (about six months before the application). After that, the debtor is obliged to undergo compulsory paid courses for personal financial management. For this purpose, there is a Credit Counseling Agency in the USA that carries out debtor training, as well as informs on criminal liability in case of concealment of information about property, income, representation of fictitious documents, and so on. Moreover, the USA Internal Revenue Service states that in case of submission of an application on voluntary bankruptcy, it is necessary to conduct a qualification test in order to determine the possibility of deducting a certain percentage of earnings for debts payment.

In general, the criminal and juridical provisions of the bankruptcy institute in the USA concerning criminal bankruptcy are aimed at preventing fraud, as well as an adequate distribution of creditors of the bankruptcy estate. Unlawful acts under USA law include: concealment of belonging to the debtor property from the manager or from creditors; submission of false documents, false declarations or submission of fictitious documents on the case, application of fictitious claims regarding the debtor's property; concealment or destruction of documents related to the property or debtor's affairs, etc. Furthermore, there is an established responsibility for submitting false reports, making unlawful changes to existing information, prohibited scheme development aimed at filing an application for bankruptcy, as well as using the bankruptcy procedure to implement a larger scheme.

As a result, it can be concluded that the USA bankruptcy institute is actually the most productive one, as evidenced by data on the number of bankrupt enterprises in recent years (see Figure 1). The main reorganization bankruptcy procedure in Great Britain is the administrative receivership of the debtor's property. This is a process, controlled by creditors with insignificant or no court involvement. It should be noted that the world practice of bankruptcy regulation reflects the widespread view that USA law pays more attention to the protection of the interests of the debtor, who has fallen into a difficult financial position, while the legislation of Great Britain and most European countries, on the contrary, protects the creditor more and is directed towards the enforcement of his claims (McCormack, 2008).

Within the framework of administrative receivership of the debtor's property, the creditor, who has the prevailing rights, appoints the manager for the bankruptcy estate. Usually a creditor with such rights is a large bank (banking group). Lack of court participation and the influence of a creditor with prevailing rights make the process of debt restructurisation faster than in the United States. This is the main advantage of British bankruptcy law. Another advantage is that debtors in Great Britain have many reasons to avoid formal bankruptcy.

The main difference between American and British practices is that the debtor in the USA in the event of bankruptcy continues to dispose his assets, but not in Great Britain. In Great Britain, the manager of the bankruptcy estate makes one of two decisions: liquidation and immediate sale of the firm, or continuation of the activity and reorganization before the sale. The main task is to maximize repayment of debt to creditors with prevailing rights. Any proceeds exceeding the amount of this creditor's claims are distributed according to the order of priority between the others. If new loans are needed to maintain the firm's value as an operating company while it is under management, these funds are usually received from the creditor with prevailing rights. In practice, after the sale of the company as an operating enterprise, the former management often returns to business, being the buyer who offered the highest price. The law contains some precautionary measures aimed at protecting the interests of other creditors from the actions of the manager.

Despite these measures, administrative receivership is often viewed as a procedure that has interests of a creditor with prevailing rights at the expense of other lenders, as well as at the expense of maintaining the value of the firm as operating company. Thus, the procedure of British administrative receivership is such that it makes the debtor's liquidation predominant. On the contrary, bankruptcy in the USA promotes the continuation of activities.

Another difference is that corporate bankruptcy in the USA appears to protect the interests of the debtor in order to save business even at the expense of creditors. On the contrary, in Great Britain priority is given to the payment on creditors' claims. We also note that in the USA, bankruptcy is more regulated by law. In Great Britain, bankruptcy procedures are based primarily on a contractual approach (Bolton, 2003).

Most small and medium-sized firms have a creditor with prevailing rights and, thus, undergo restructurisation within the frameworks of administrative receivership when they are in financial difficulty. Large firms, on the other hand, do not always have one big creditor. In this case, another reorganization procedure – administration – is applied. The procedure was introduced in 1985 as an alternative to direct liquidation, which was inevitable in the absence of a major creditor with prevailing rights and is considered as an English copy of Ch. 11 of the Bankruptcy Code of the USA. The main difference between the receivership and administration is that the bankruptcy court, and not the main creditor, appoints an administrator (manager) on the offer of the debtor or creditors. The administrator has the right to suspend the actions of creditors regarding the recovery and repayment of debts for a certain period of time. He may also attract new funds to continue the company's activities. Creditors can stop the administration at any time by a majority vote. In doing so, they must approve the reorganization plan proposed by the administrator (Bolton, 2003).

The administration is rarely used even for relatively large firms. The main reason is that while submitting an application for bankruptcy the management of the company is dismissed. The main creditors, banking groups prefer to avoid this and therefore try to restructure the company's debts in an informal way. This practice is known as the "London approach". This restructurisation applies only to liabilities to banks that conduct secret negotiations, and usually includes the temporary termination of payments on credit debts and a proportionate write-off. Unfortunately, the informal and secret nature of these restructurisation leads to the lack of sufficient information on this practice (Armour & Deakin, 2001).

In *Germany*, the bankruptcy procedure is based on an administrative model, where the court assigns a manager to supervise or manage the firm. Up to the adoption of the new code bankruptcy in 1999, firms rarely underwent reorganization in case of insolvency. There were two reasons of this fact. Firstly, the old reorganization rules did not provide for a moratorium on debt or the sale of pledged assets. Secondly, the law required payment of at least 35% of the debt on unsecured claims of creditors.

The new law, with the aim of making the reorganization more attractive, introduces a moratorium, and cancels the requirement for a 35 percent minimum payout as well. Let us note that, in general, in Germany, the debtor has less protection than in USA practice (Bolton, 2003). The bankruptcy institute in Germany is aimed at a social aspect and strictly regulates the preservation of jobs. As a result, a different attitude of society towards the very phenomenon of bankruptcy has developed. Accordingly, the order of debt obligations repayment in Germany has the following sequence. First of all, social payments are extinguished, then wage arrears are paid off, then taxes from commercial activities are paid, after that – debts to other creditors. At the same time, the participation of the state in bankruptcy procedures is defined as for an ordinary creditor.

A distinctive feature of the bankruptcy institute in Germany (unlike France and Great Britain) is that there is no licensing procedure for competitive managers, and no special legal requirements are imposed on them. The competitive managers must meet only the requirements of proper qualification and be independent towards the debtor and the creditors. In Germany, the responsibility for the implementation of the actions of professionals is entrusted to professional organizations, namely: the Chamber of Lawyers, the Chamber of Chartered Accountants of the highest qualification, which compulsorily includes all lawyers and qualified accountants.

In German law, there is a liability for intentional acts of bankruptcy. The crisis in German law is understood as a state "over indebtedness that threatens the coming of insolvency". German bankruptcy legislation provides for special rules of liability for granting privileges to one of the creditors at the expense of others, as well as in the commission of unlawful actions in favor of an insolvent organization.

In Germany, there are three types of bankruptcy, for which liability is provided: a simple, malicious and particularly severe bankruptcy case. A simple bankruptcy is qualified as such in the case when the person does not know about the insolvency of the organization because of negligence, malicious – in the case of property destruction or the conclusion of unprofitable agreements. A particularly severe case of bankruptcy is the perpetrator's actions in his personal interests or deliberate creation of a threat of ruin for counterparties.

The bankruptcy institute in *France*, unlike, for example, Great Britain, is prone to protectionism. This is reflected, among other things, in the competition law, the means of which the government is trying to use in order to neutralize the actions of each new challenge to the French economy. And there were a lot of such challenges: since the 1950s, French enterprises have had to struggle not only with domestic competitors, but also with rivals from the European Union member states, primarily Great Britain and Germany. Since the 70s of the 20th century, the entry into the EU market of manufacturers from developing countries has become a new test for the economy of France. At the same time, another unfavorable trend, namely, the gradual ousting of French banks, which were quite loyal to their domestic manufacturers and their tougher American and British competitors, became clear.

The American and British banks that came with their business standards were no longer so eager to help French enterprises, which forced the government to almost eliminate the role of creditors in the competitive process and focus on supporting its manufacturer. Such a measure was also based on a simple, albeit unofficial reasoning: why bother with the interests of the main creditors, who in most cases represent foreign capital. Consequently, the formation of the new bankruptcy institute in France, which can be qualified as "radically pro-debtor". The current bankruptcy law is the result of the reform that took place in 2005. The main result of this reform was the introduction of a new procedure for preserving the enterprise, the main features of which are borrowed from Chapter 11 of the Code of Insolvency of the USA. So in France two procedures of insolvency are used: general (for large organizations) and simplified (for small firms).

In the economic strategy of the French state, the bankruptcy institute performs a macroeconomic role aimed, primarily, at preserving existing enterprises by reducing the rights of creditors. The peculiarity of the French regulatory system is that representatives of the court seek to initiate negotiations between the debtor and creditors at the first signs of insolvency. In French law, a strict rule has been established – in any case, it is better to support the activities of an enterprise, while reducing the proportion of assets that creditors could expect when liquidating a debtor. And this, in turn, weakens creditors and the entire economic system as a whole. In France, the only authorized body capable of deciding whether to initiate bankruptcy proceedings is the prosecutor's office. A distinctive feature of French law in terms of bankruptcy, unlike German one, is the possibility of involving legal entities in criminal proceedings. The debtor's responsibility comes only when the debtor in various ways hides his property status with the aim of not paying debts, as well as forgery in documents, for "destructive means of obtaining money", consisting in a person's selling the acquired property at low prices.

Thus, having analyzed the bankruptcy institute in different countries, we can conclude that the main purpose of bankruptcy procedures is the maximum repayment of loans and financial "recovery" of the debtor. But in this case, each country has its own characteristics (Table 1). In the context of this study, we should note that the legislation of countries with transitional economy is devoted to the bankruptcy process, and is developed less than law in other areas of commercial law. The bankruptcy institute with a debtor orientation is typical for Uzbekistan, Moldova, Lithuania, Ukraine (although in the latter case, the general debtor direction is combined with serious separate pro-creditor provisions). The bankruptcy institute of Azerbaijan, Kazakhstan and Georgia can be characterized as pro-creditor. Strong pro-credit elements are present in the legislation of Latvia and Estonia. It should be noted that, firstly the countries of Central and Eastern Europe and the CIS had a choice between these two models. However, since most developed countries use a mixed model that includes elements of both American and English, trying to strike a balance between the rights of creditors and debtors, many countries with transitional economy have tried to follow the same way.

Table 1. Comparative analysis of the bankruptcy institute in different countries of the world

Index	Countries			
	USA	**Great Britain**	**France**	**Germany**
1	2	2	4	5
Focus of the bankruptcy institute	Pro-debtor	Pro-creditor	Pro-debtor	before 1999 – pro-creditor, after 1999 – pro-debtor
Objects of the bankruptcy procedure	Legal entities (also municipalities) and individuals	Objects Legal entities, individuals	Legal entities, individuals	Legal entities, individuals
Court participation	average	insignificant	significant	significant
Debtor management	Is usually preserved	is dismissed	is dismissed	is dismissed
Presence of manager	Is assigned by court in rare cases	Is assigned by creditor with better rights	Is assigned by court	Is assigned by court
Other peculiarities	The debtor's reorganization plan may be approved by a judge ("cramdown") after evaluating "the biggest satisfaction of the creditors' interests»	Creditors prefer to restructure the firm's debts in an informal way (London approach) without starting bankruptcy procedures.	The manager appointed by the court represents the state, and not the creditors	Since 1999, a moratorium on debts and sale of pledged assets has been introduced, as well as the requirement to pay at least 35% of unsecured claims during reorganization has been canceled.
Obligation to hold auctions or public bidding for the assets sale	No	No	No	No

Source: compiled by the author

3. Tasks and performance criteria of the bankruptcy institute.

As a result of this investigation of the bankruptcy institute operation in different countries, it may be noted that the priority task for some is to increase the repayment of creditors (Manfred Balzce's model in Germany), for others – to rescue businesses and preserve jobs, which raises the price of credit to the detriment of creditors (English concept). The third model (the American and French systems) sets the efficient distribution of property and the performance of macroeconomic functions as the main task. Taking into account world experience, we consider that in the Ukrainian economy it is necessary to form such an bankruptcy institute, which would allow to find a compromise between the preservation of viable enterprises and the inadmissibility of limiting the rights of creditors.

Meanwhile, despite the fact that the legal structures of the bankruptcy institute of the countries reviewed are very different, we can distinguish two key tasks that, as a rule, are common to the bankruptcy institute in most countries of the world (Orderly & Effective Insolvency Procedures Key Issues, 1999).

First, this is the distribution of risks in the interaction between economic entities in a predictable, fair and transparent manner. Achieving this goal plays an important role in

ensuring the confidence of the entities of these interactions in the credit system and in promoting economic growth. At the same time, a higher degree of protection of the interests of secured creditors rather than unsecured ones may be beneficial not only for secured creditors, but also for their potential borrowers who, due to certain credit risks, can not rely on unsecured loans. The high degree of security of secured creditors, as a rule, reduces the cost of corresponding loans. The bankruptcy institute must also efficiently solve the problem of fraud and the provision of individuals with no legal benefits. Parties concerned should receive sufficient information to implement their rights and legitimate interests.

The second task of the bankruptcy institute is to provide protection and maximize the value of the debtor's assets in the interests of all parties concerned and the economy as a whole. Achieving this goal is essential not only for the rehabilitation procedure used in the bankruptcy case, but also for the liquidation procedure. The toolkit, aimed at maximizing the value of the debtor's assets, may vary.

It is hardly possible to draw a clear line between the instruments for achieving the specified tasks of the bankruptcy institute – the equitable distribution of risks and maximizing the value of the debtor's assets. Therefore, when shaping the architecture of the bankruptcy institute, the decision of the legislator on the priority of one or another purpose of regulation and a reasonable balance of interests of participants in the bankruptcy case may be dictated by various, sometimes contradictory, motives. In view of the above, it can be stated that the institution of bankruptcy disciplines the subjects of economic interactions, increases the competitiveness of the business sector, promotes the development of credit relations in the country.

According to the results of the analysis of foreign experience of the bankruptcy institut functioning e, its evaluation criteria have been established (Fig. 2). The first criterion is the possibility of the debtor's rehabilitation, that is, the rehabilitation of the debtor company and his business rehabilitation. Thus, rehabilitation of business in Germany involves preserving the activities and workplaces. In turn, in England, compared to other countries, creditors are more protected (radical pro-creditor orientation), the American model is less liberal to creditors, and protection of the debtor's interests is combined with remedial measures; in France, the main task is to improve the organization, at least to the detriment of creditors.

The second criterion for assessing the institute of insolvency is the approach to solving the bankruptcy of enterprises (liquidation or reorganization). In spite of significant differences, in world practice there is a tendency to develop the same approach to regulating this process. Its feature is the accounting of individual characteristics of the situation and the possibility of choosing a procedure for overcoming bankruptcy in each case.

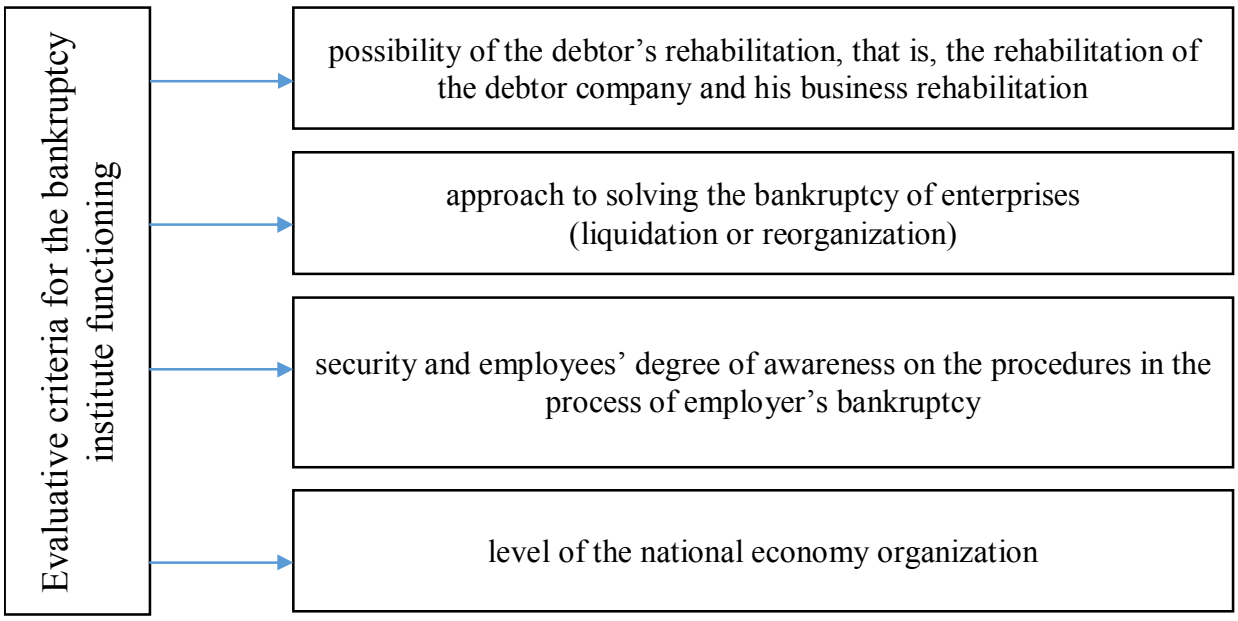


Fig. 2. Evaluative criteria for the bankruptcy institute functioning

Source: compiled by the author

The third criterion is security and employees' degree of awareness on the procedures in the process of employer's bankruptcy (the possibility of obtaining unemployment insurance, medical and pension provision, information through the court, etc.). For example, in the USA, an employee has the right to independently apply to the court to receive funds for medical support from the bankruptcy estate. Employees have the right to receive information on the financial position and business of the company through the court, as well as to appeal to the manager on the bankruptcy plan of the company in order to obtain the necessary data on the course of bankruptcy and planned activities.

The fourth criterion, no less important than the previous ones, is the level of the national economy organization. Moreover, the resultant effect of influence of social reproduction on minimizing economic and social losses, as well as stimulating positive changes, should act as its indicator. Proceeding from this, the improvement of the bankruptcy institute is part of the overall country's strategy, including the formation of economic and institutional conditions for its application. As an example, these are the innovations that have taken place in the bankruptcy institute functioning lately. Thus, Polish government encourages firms to restructure their debt in an extrajudicial fashion, putting forward an additional incentive to reduce tax claims if the firm gets a working agreement with other creditors.

Conclusions.

As a result of the research, it should be noted that the study of existing differences between the national bankruptcy institutes has not only theoretical but also applied importance for Ukrainian enterprises (especially those engaged in foreign economic activity), as well as for law-making practice on macro- and meso-level.

Describing global tendencies in the bankruptcy institute development, it can be noted that they have a desire for humanization in relation to economic entities, which, however, is not accompanied by indulgence in their irresponsibility and neglect of the creditors' interests (those who overcome the "advantage of liquidity" and started in a risk business promotion, thus creating jobs and increasing public good). In the 21st century, an identical international approach to regulating the bankruptcy institute along the line of differentiating the outcome of a crisis and expanding the possibilities for choosing a procedure to overcome bankruptcy is gradually being developed. Consequently, one of the main tasks of the bankruptcy institute is to ensure the civilized liquidation of non-viable participants in the market process through the fastest and most efficient procedure for fairly satisfying the claims of creditors at the expense of the debtor's assets.

It should be noted that an important indicator of the efficiency of relations regulation in the field of entrepreneurship is to ensure the sustainability of economic growth in the country. The direct result of such an impact is expressed in the indicators of saving business (and, accordingly, jobs) and in repaying debts to creditors. With such an orientation of the bankruptcy system, the protection of the interests of creditors goes to the background. Ensuring their rights is only one of the tasks in the process of preserving the business entity. We believe that, for Ukrainian realities, the optimal functioning of the bankruptcy institute is seen in the solution of both of these tasks.

References.

Armour, J., & Deakin, S. (2001). Norms in private in solvency: the "London approach" to the resolution of financial distress. *Journal of Corporate Law Studies*, *1*(1), 21-51.

Bolton, P. (2003). Toward a statutory approach to sovereign debt restructuring: lessons from corporate bankruptcy practice around the world. *IMF Staff Papers*, *50* (1), 41-71.

Bridge. C. (2013). Insolvency – a second chance? Why modern insolvency laws seek to promote business rescue. 28 Law in transit. Retrived from: http://goo.gl/SxLNPc

Di Martino, P. (2005). The Historical Evolution of Bankruptcy Law in England, the US and Italy up to 1939: Determinants of Institutional Change and Structural Differences // Södertörnshögskola. Retrived from: http://goo.gl/dwtgXf

Global bankruptcy report 2017. Business Bankruptcies Reach Record Lows Despite Sluggish Economic Growth. Retrived from: https://www.dnb.com/site-search.html?q=bankruptcy

Hart, O. (2000). *Different approaches to bankruptcy* (No. w7921). National Bureau of Economic Research.

Ilkova, N., Rynkevych, N. (2018) External Conditions of Bankruptcy Institute Functioning in the Economy of Ukraine. *Economics. Ecology. Socium*, *2*, 1-10. https://doi.org/10.31520/2616-7107/2018.2.4-1

Jackson, T. H. (1982). Bankruptcy, Non-Bankruptcy Entitlements, and the Creditors' Bargain. *The Yale Law Journal*, *91* (5), 857-907.

Kirillovyh, A. (2015). The bankruptcy of natural persons: innovations of the Insolvency Law. *Legislation and Economics*, 6, 7-22.

Lieb, R. (2006). State Sovereign Immunity: Bankruptcy is Special. *Am. Bankr. Inst. L. Rev.*, *14*, 201.

Mann, B. H. (2009). Bankruptcy in the Age of American Independence. Cambridge, MA: Harvard University Press.358 p.

Martin, N. (2005). The Role of History and Culture in Developing Bankruptcy and Insolvency Systems: The Perils of Legal Transplantation. Retrived from: http://goo.gl/tqF8tF

McCormack, G. (2008). Corporate Rescue Law – An Anglo-American Perspective. Retrived from: http://goo.gl/c8Xp3C

Nosan, N. (2016). Adapting of the European experience of the bankruptcy functioning in domestic practice. *Investments: practice and experience*, (18), 52-56.

North, D. C. (1991). Institutions. *Journal of economic perspectives*, *5*(1), 97-112.

Orderly & Effective Insolvency Procedures Key Issues (1999). Legal Department International Monetary Fund. Retrived from: http://www.imf.org/external/pubs/ft/orderly/

Parry R. (2004) Introduction. Corporate Rescue. An Overview of Recent Developments from Selected Countries in Europe. Eds. B. Gromek, R. Parr. The Hague; London; New York: Kluwer Law International.

Porta, R. L., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1998). Law and finance. *Journal of political economy*, *106* (6), 1113-1155.

Warren E. (2014). Bankruptcy and Article 9. Statutory Supplement. New York: Wolters Kluwer.

Wessels B. (2014). European Law Institute Projects Conference Thursday 25 September 2014, Zagreb, Croatia. Business Rescue in Insolvency Law. Setting the Scene. European Law Institute.

Wood P. (2007). Principles of International Insolvency. 2nded. London: Sweet& Maxwell.

Chapter 4. POLITICAL SCIENCE, PSYCHOLOGY AND SOCIOLOGY

Viktor Dyuzhev
Doctor of Economics, Professor
National Technical University "Kharkiv Polytechnic Institute"
Kharkiv, Ukraine
orcid.org/0000-0002-9929-2431
Oleg Boichenko
Postgraduates Ph.D. in Management
National Technical University "Kharkiv Polytechnic Institute"
Kharkiv, Ukraine
orcid.org/0000-0003-2323-4320
Dmitriy Bolshakov
Postgraduates Ph.D. in Economics
National Technical University "Kharkiv Polytechnic Institute"
Kharkiv, Ukraine

ANALYSIS OF PUBLISHING ACTIVITY ON HUMAN RESOURCE MANAGEMENT SYSTEMS OF ENTERPRISES IN THE BASES OF ELECTRONIC RESOURCES IN TERMS OF INFLUENCE OVER ITS INNOVATIVE RECEPTIVITY

Abstract*. This article is dedicated to research of the electronic resources of the world and Ukrainian university libraries in the area of Human Resource Management Systems (HRMS) for purposes of identifying trends, regularities and forming complex measures regarding their efficiency improvement. In the course of research the analysis of indicators of publishing activity performance was made. Increment rate indicators were calculated. Growth trends of HRMS publications in the world and Ukrainian scientific libraries were determined.*

JEL Classification: M12, A10

Introduction.

Human Resource Management System (HRMS) of the companies at this stage of development of the world and Ukrainian economy is considered to be the most important management and marketing element to increase returns of investing of resources and improve efficiency of companies and enterprises. In this conception the personnel innovative receptivity (IR) is considered to be the most important aspect for all the innovative measures. So performance of group and individual research in this area, aimed to search and introduction of the effective approaches involving personnel into business processes of companies and enterprises, allows extend competing efficiency of the company within the scope of innovative economy.

In particular, as of today such markets as industrial automation market, non-conventional renewable power generation market (NCRPG) pick up momentum, and throughout the world ambitious plans on expanding of new capacities are being developed.

The growth of capacities and skilled personnel formation are the important factor of accelerated development and success of the innovative technologies. It should be appreciated that we have been passing through the 4-th industrial revolution lately. Industry 4.0 is a new round of the industrial revolution, which is characterized by integration of production and network communication, demanding from the enterprises to have all eyes about one and introduce new technologies. Raising of competitive capacities of the companies not only in the area of industrial automation, but as well in the other areas of economy, such as NCRPG etc. is considered to be substantial part of knowledge, which is under consideration in the research provided, as well as it is useful to remember that innovation-director HRMS is an important part of this process.

The main objective of this article includes determination of demand and orientation of HRMS formation in the world practice and in Ukraine.

1. Analysis of world academic publications in HRMS

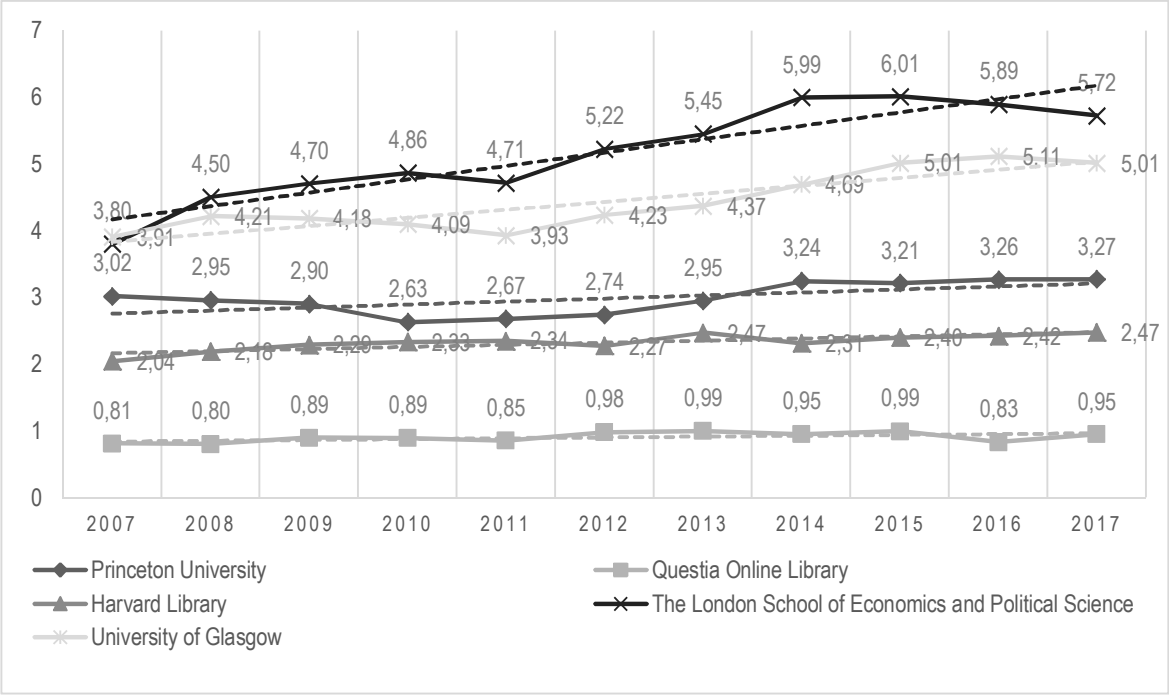
The part of definite academic publications is considered to be one of the major indicators of publishing activities in the scientific libraries, specifying interest in HRMS. The object of this research includes a number of databases of the largest world academic electronic libraries, such as: Princeton University (Electronic archive «of Princeton University», 2018), Questia Online Library (Electronic archive «of Questia Online Library», 2018), Harvard Library (Electronic archive «of Harvard Library», 2018), The London School of Economics and Political Science (Electronic archive «of the London School of Economics and Political Science», 2018), University of Glasgow (Electronic archive «of University of Glasgow», 2018) (Table1).

Table 1. World scientific libraries

Scientific libraries	Location	Since
Princeton University	USA, New-Jersey, Princeton,	1746
Questia Online Library	United States, Illinois, Chicago	1998
Harvard Library	UnitedStates, Massachusett, Cambridge	1638
The London School of Economics and Political Science	Great Britain, London,	1895
University of Glasgow	Scotland, Glasgow since	1451

The results of the appropriate data analysis are presented in Fig. 1. Sampling from the scientific libraries was taken from the journal articles, dissertations, conferences (Journal article, Dissertation/thesis, Magazine Article, Conference Proceedings), HRMS search (human resource management system). Research were performed according to data from 2007 to 2017. When analyzing the indicators of the world databases, we can note that in 2017 the share of HRMS publications increases almost in all the libraries in relation to 2007, consequently, we can see that almost all the world scientific publications pay greater attention to HRMS. Having analyzed performance of the above mentioned databases in Figure 1 in more details, we can see that The London School of Economics and Political Science ranks first as one of the oldest schools in Great Britain, specializing in study of social sciences and ranks second in the world (Harvard University) in the field of social sciences (Social Sciences and Management, 2017).

Economic subjects in this school rank fifth in top 10 the best in the world (London School of Economics and Political Science, 2018). And so the share of HRMS publications ranges from 3.8 to 5.99% in different years.



Note: *vertical axis Y shows: share of publications in %, horizontal axis X – year.*

Fig.1. Performance of HRMS based publishing activity according to scientific world libraries

University of Glasgow ranks second per share of publication; this fourth ranking University by seniority in Great Britain is included into 1% of the best higher education institutions of the planet. The share of publications per HRMS ranges from 3.91 to 5.11% in different years.

Harvard Library ranks third and one of the oldest Universities, found in 1638, the share of HRMS publications ranges from 2.04 to 2.47% in different years. In this library hundreds of millions publications have been collected. This publication is most cited, articles of Harvard Business Review on the subject of personnel management tell about: organizational culture, increase of communication abilities for the managers, regarding salaries, delegation of authorities, regarding working place. Volume of articles of Harvard Library, according to HRMS subject contains more than 2 mln. scientific articles from all the world. This publication is the oldest, published since 1636, having 73 libraries and is specialized in business education, and so performance of publication of these articles has been almost straight and stable over the last 10 years (as we can see in Fig.1.).

Questia On line Library in Fig. 1. is significantly below relative to the others (from 0.8 to 0.95%). This is due to that Questia On line Library a relatively new publication since 1998, and it has collected total around several dozens of millions of publications, and in the other libraries – hundreds of millions.

In this library special emphasis shall be on the books and articles in the journals on the humane and social studies (Questia, 2013). For characteristic of intensity of variations in time and validity of the further analysis, based on the diagram results obtained, the indicators of publishing activity performance according to the above presented databases were calculated. This data is given in Table2.

Table 2. Indicators of publishing activity performance of the world databases over 2007-2017 on HRMS subject

Databases	In_{2007}, %	In_{2017}, %	Mean absolute increment, %	Basis absolute increment, %	Time series trend, %
Princeton University	3.02	3.27	0.03	-0.04	decreasing
Questia Online Library	0.81	0.95	0.01	0.10	increasing
Harvard Library	2.04	2.47	0.04	0.31	increasing
The London School of Economics and Political Science	3.80	5.72	0.19	1.50	increasing
University of Glasgow	3.91	5.01	0.11	0.57	increasing

Note: where, In_{2007} – base value of share of publications on HRMS subject over 2007; In_{2017} - base value of share of publications on HRMS subject over 2017.

As we can see from Table 2, indicators of the world databases in 2017 the share of HRMS publications was increased almost in all the libraries relative to 2007, consequently, significantly intense interest in HRMS and increase of studies in this area all over the world is observed. Let's analyze performance of the above mentioned databases in more details. We can see from Table 2, that steady growth of publishing HRMS activity from 2007 to 2017 is noted, where maximum basis absolute increment is fixed in 1.5% in The London School of Economics and Political Science, that in the absolute numbers constitutes 8 545 publications from 49 207 in 2007 to 57752 in 2017. This points to the fact that the global community gives much attention to HRMS over the last 10 years, as this is the direct index of the successful development of the enterprise. And only at Princeton University we can see minor recession by -0.04%. In the absolute numbers this is reflected in 2007 from 161 195 to 206 715 in 2017 growth by 45 520 publications, this not too little. And at the same time total number of publications from 5 344 675 in 2007 was increased to 7 347 069 in 2012 and came down to 6 327312 in 2017. Against the background of significant number of publications falling to -0.04% is far from significant.

2. Analysis of University libraries of Ukraine academic publications in HRMS

If we continue analysis we should present research of repositories of the scientific electronic University libraries of Ukraine, as follows: Electronic National Technical University "Kharkiv Polytechnic Institute" Institutional Repository NTU "KhPI" (eNTUKhPIIR) (Repository of the National Technical University, 2018), National Technical University "Igor Sikorsky Kyiv Polytechnic Institute" (ELAKPI) (Electronic

archive of scientific and educational materials of Ihor Sikorsky KhPI, 2018), Zhytomyr Ivan Franko State University (Repository of Zhitomir Ivan Franko State University, 2018), National University of "Kyiv-Mohyla Academy" (eKMAIR) (National University of "Kyiv-Mohyla Academy", 2018) (Table 3).

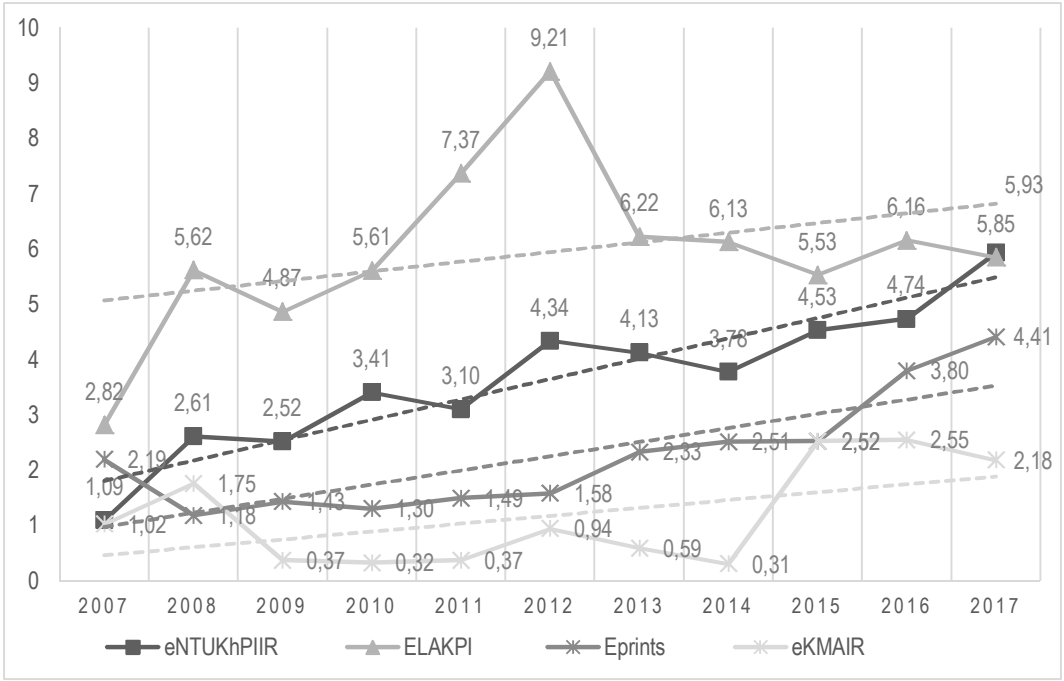
Table 3. Ukraine scientific libraries

Scientific libraries	Abbreviation	Location	Since
National Technical University "Kharkov Polytechnic Institute"	eNTUKhPIIR	Ukraine, Kharkov	1885
National Technical University "Igor Sikorsky Kyiv Polytechnic Institute"	ELAKPI	Ukraine, Kiev	1898
Zhytomyr Ivan Franko State University	Eprints	Ukraine, Zhitomir	1919
National University of "Kyiv-Mohyla Academy	eKMAIR	Ukraine, Kiev	1632

Search words: "Human Resource Management System".

Next we will give performance of ratios of the share of HRMS publications to total number of publications in the electronic databases of the Ukrainian University libraries (fig.2). On the basis of data in fig. 2, we can see that ELAKPI repository ranks first in quantity of HRMS publications to total amount, meaning that interests in business education and education in the area of economy and management has been increasing lately. This University is located in the capital of Ukraine – city of Kyiv and more and more students, postgraduates and professors have paid attention to HRMS study in it over the last 10 years.

When going to analysis of the share of publications in the Ukrainian electronic bases on HRMS subject, we should note growth of scientific articles from 2007 to 2017 almost in all the repositories just in eKMAIR in 2017 we can see a small decrease meaning development in this area and urgency of this research.



Note: *vertical axis Y shows: share of publications in %, horizontal axis X – years.*

Fig 2. Performance of ratios of the share of publications on HRMS subject to total amount of publications in the electronic bases of the Ukrainian university libraries

In 2007 HRMS publishing activity was at a low level from 0.58% to 2.82%, however over 10 years by 2017 the share of publications of yEprints, ELAKPI and eNTUKhPIIR reached the high level from 4.41; 5.85 and 5.93% accordingly (fig.2), thereby brining our country to the world level of publishing activity in this area. For reliability of these findings and further analysis let's perform computation of indicators of publishing activity performance. (Table 4). On the basis of this Table 4, we can make a conclusion that the share of HRMS publications holds out the world level, and considerably higher and in ELAKPI basis absolute increment reaches to 3.44%. When paying attention to the indicator of the share of publications for 2017 relative to 2007, we can see considerable growth of publication over this period, they approach to the world indicators, and some of them are higher than the world indicators, in particular repository eNTUKhPIIR has indication as 5.93%.

Table 4. Indicators of publishing activity performance of the world databases over 2007-2017 on HRMS subject

Databases	In_{2007}, %	In_{2017}, %	Mean absolute increment, %	Basis absolute increment, %	Time series trend, %
eNTUKhPIIR	0.47	5.93	0.48	2.82	increasing
ELAKPI	2.82	5.85	0.30	3.44	increasing
Eprints	2.19	4.41	0.22	0.06	increasing
eKMAIR	1.02	2.18	0.12	0.17	increasing

***Note**: where, In_{2007} – base value of share of publications on HRMS subject over 2007; In_{2017} - base value of share of publications on HRMS subject over 2017.*

This is due to that the volumes of the world and Ukrainian databases differ remarkably. The world libraries have databases, which contain millions, and in Princeton University billions of the scientific publications and articles, in its turn the Ukrainian repositories have tens of thousands of such-like publications. The important shade of increasing performance of characteristics is considered, that just since 2011 development of the Ukrainian repositories and scientific libraries, their filling in with digitized material and forming of the electronic archives have started, this will result in a huge faltering growth of total number of publications, influencing performance signs. At the same time, in general this exerts not much influence on performance.

When analyzing indicator of mean increment of the share of publications, we can note, that their share increases in the range from 0.12 to 0.48%. Maximum value is observed at eNTUKhPIIR, meaning consistently increasing development trend to study and research in this area of knowledge. The scientists of the analyzable universities have started to pay a great deal of attention to HRMS development and influence to innovative receptivity of personnel.

On the basis of research of sources of the scientific publications of the area of knowledge under consideration we can make a conclusion, that fairly in Ukraine there are conditions, allowing applying HRMS. But this process is delayed by a set of the institutional and economic factors: few investment programs in this area of activity, volatility of the financial credit area, lack of the nationwide assistance, absence of the proper interest of the managers to pay attention to form development of just HRMS companies, but not to chase after every minute profit.

To realize HRMS and NCRPG advantages to the full extent system approach to management of personnel and productive-economic activity is required.

However in the modern innovative conditions NCRPG development is connected with integrated approach in the energy saving complexes, where it is necessary to use innovative-oriented HRMS while introducing these technologies, meaning goal-oriented innovative receptivity field of energy saving technologies within the framework of Human Resource Management Systems.

From our point of view within HRMS framework you should reformat realization priorities of subsystems and functions for integrated support of the process of the effective use of NCRPG technologies.

At the bottom of the new management paradigm we should consider synergetic approach in management. Synergetic approach is considered as the further development of system approach, giving to the specialist new possibilities to research and carry out management behavior (Gaponenko, Pankrukhin, 2011). To our view synergetic approach when an NCRPG technology supposes evaluation of the end-to-end social-economic and environmental and technogenic performance that at present under conditions of Ukraine is implemented weakly. One of the problems includes underdevelopment of the innovative HRMS component.

On the basis of the foregoing we can conclude, that just a synergetic approach in management of the plant and integrated use of NCRPG potential is an important aspect of improved performance in the market positions, competitive growth of the domestic plants, and consequently improvement of the innovative receptivity of the plants to NCRPG technologies (Diuzhev, Boichenko, 2018).

In addition, the situation with fragmentation and low availability of scientific databases in Ukraine and CIS countries does not contribute to increasing the susceptibility of HRMS. If there are generally accepted electronic databases of libraries in the world society, then in Ukraine there are only some small database sizes in a number of universities. Besides, such large state and national Ukrainian libraries as the State scientific and technical library, the National library named after Vernadsky, the State library named after Korolenko, and others, which have millions of funds of scientific and technical literature, but digitized material is not enough, of course, and this material that is not always available to the public.

It turns out that it is easier to find data in the foreign electronic sources than in the information field of Ukraine (Duizhev, Suslikov, Boichenko, 2017).

At the moment, they have just started discussing the question of the formation of a common catalog of public libraries of Ukraine, a single library card, optimization of library networks, optimization of library collections, the formation of copyright protection when digitizing and other important aspects that will help solve the problem of publishing activity (Dyuzhev, Suslikov, Bolshakov, 2017). All of this suggests that scientific work and research in the field of HRMS will lead to increase in a number of innovative perceptivity personnel.

Management as a control system in a more comprehensive sense means management, control, creation and maximum effective use of socio-economic systems and models of different levels. Therefore, management with its inherent consistency and sequence should be the basis for the management system in NCRPG enterprises, which will lead to the fullest possible use of resources and reduce the negative impact on the environment (Diuzhev, Boichenko, 2017).

Management activities in the management system of the enterprise are the work aimed at achieving the stated goal, which is a series of continuous interrelated actions. Accordingly, the fundamental principle of management is an integrated approach to linking goals with the resources and capabilities of the enterprise (Boichenko, 2018).

Conclusions.

In this work connected with research of publishing activity we have made the analysis of HRMS publishing activity from the point of view of its development and relevance in the Ukrainian sector and on the world-wide scale. For this purpose, we have analyzed the sample of scientific libraries and repositories of different countries, performance of the number of scientific articles, as well as the share of publications on the subject of HRMS in the total world volume and in CIS countries for the period 2007-2017. In addition, the characteristic features of the growth of publishing activity in the analyzed area have been found and its causes have been determined, which indicate the overall positive performance of HRMS development.

The main conclusion can be made from the fact that the Ukrainian information resources, and production and commercial area get oriented insufficiently in the various types of HRMS technology. Due to the lack of scientific and academic research in this area, the society misses the logical HRMS component. Insufficient understanding of HRMS types and functions occurs.

All this suggests that there is a great need to increase research in the field of HRMS, including the organizational and economic difficulties of its innovative receptivity, which will make it possible to bring the use of these technologies in Ukraine up to the level of the European and world standards.

In this article the problem of digitization of repositories of Ukraine has been described.

References.

Electronic archive «of Princeton University» (2018). Retrieved from: http://princeton.summon.serialssolutions.co.

Electronic archive «of Questia Online Library» (2018). Retrieved from: https://www.questia.com

Electronic archive «of Harvard Library» (2018). Retrieved from: https://hollis.harvard.edu.

Electronic archive «of the London School of Economics and Political Science» (2018). Retrieved from: https://librarysearch.lse.ac.uk.

Electronic archive «of University of Glasgow» (2018). Retrieved from: https://glasgow.summon.serialssolutions.com.

Social Sciences and Management (2017). "*Top Universities*". Retrieved from: https://www.topuniversities.com

London School of Economics and Political Science (2018). Topuniversities.com. QS QuacquarelliSymonds. Retrieved from: https://www.topuniversities.com.

Questia (2013). "AboutUs". Retrieved from: https://www.questia.com/about-questia

Repository of the National Technical University (2018). "Kharkov Polytechnic Institute", Retrieved from: http://repository.kpi.kharkov.ua/ [in Ukrainian]

Electronic archive of scientific and educational materials of Ihor Sikorsky KhPI (2018). Retrieved from: http://ela.kpi.ua/ [in Ukrainian]

Repository of Zhitomir Ivan Franko State University (2018). Retrieved from: http://eprints.zu.edu.ua/ [in Ukrainian]

National University of "Kyiv-Mohyla Academy" (2018). Retrieved from: http://ekmair.ukma.edu.ua/?locale-attribute=uk [in Ukrainian]

Gaponenko, A., Pankrukhin, A. (2011) *Strategic management.* Omega-L. [in Ukrainian]

Diuzhev, V.G., Boichenko, O.I. (2018). Innovative receptivity of the market for the branch electrical energy industry. *Eastern Europe: economy, business and management*, 1(12). Retrieved from: http://www.easterneurope-ebm.in.ua [in Ukrainian]

Duizhev, V.G., Suslikov, S.V., Boichenko, O.I. (2017). Influence on the innovative receptivity of characteristics of Human Resource Management System. *Research-and-production journal "BUSINESS-NAVIGATOR*" 4-1(43). 138-142. [in Ukrainian]

Dyuzhev, V.G., Suslikov, S.V., Bolshakov, D.V. (2017). Research of trends of alternative energy forms in the context of the world and Ukrainian scientific electronic resources analysis. *Bulletin of KrNU named after Mykhailo Ostrohradsky* [in Ukrainian]

Diuzhev, V.G., Boichenko, O.I. (2017). Increase of innovative favorableness of personnel of commercial service of enterprises industrially automations. *Bulletin of NTU "Kharkiv Polytechnic Institute" (economic sciences),* 45(1266), 42-46 . [in Ukrainian]

Boichenko, O.I. (2018). Innovations in terms of Ukrainian industrial company. *International relations. Economy. Regional study. Tourism* [in Ukrainian]

Olexander Shmatko
PhD, NTU"KhPI",
Kharkiv, Ukraine
Yuliia Litvinova
PhD, NTU"KhPI",
Kharkiv, Ukraine

BLOCKCHAIN AS THE BASIS OF THE DIGITAL ECONOMY. WORLD EXPERIENCE OF CRYPTOCURRENCY FINANCIAL REGULATION

Abstract*. The article discusses the international experience of cryptocurrency regulation on the example of such countries as the United Kingdom, the United States of America, Canada, Australia, Estonia, Ukraine, Japan, China, Latin American countries. If we consider the world map, which shows the status of cryptocurrency, then we can mark the countries that have been waiting. These countries include Venezuela, the USA, Canada, Australia, a part of the European Union, and such giants of technological innovations as China and Japan. A number of countries of the European Union, led by Germany, Latin American countries are in a neutral position, due to the lack of developed legislation aimed at regulating cryptocurrency relations. Cryptocurrencies in Ecuador, India, Nepal, Thailand, Vietnam and Bangladesh banned. The conclusion about the expediency of legal regulation of new phenomena, including internationally.*

JEL Classification: A10

Introduction

The development of blockchain technology begins with the advent of bitcoins (Bitcoin) in 2008. The author of Bitcoin: A Peer-to-Peer Electronic Cash System under the pseudonym Satoshi Nakamoto (Nakamoto S.) described how to build a peer-to-peer payment system with the ability to make electronic transactions without intermediaries - financial institutions. The work described a method for solving this problem using a digital signature. But, at the same time there was the problem of a trustee who controls the double spending. It was proposed to use a decentralized solution based on a peering system, cryptography, mathematical rules, such as, proof of work (Proof-of-Work) and general rules for conducting transactions between system participants. This decision was called the bitcoin blockchain.

The paper proposes a system of electronic transactions, not based on trust. The construction of the scheme began with the traditional presentation of coins based on digital signatures, providing control of possession, but allowing double waste. This problem is solved by using a peer-to-peer network and a “proof of work” scheme to record the public transaction history.

1. Fundamental Principles

When using this solution, an attacker who does not have most of the network resources will not be able to change the records of transactions that have occurred. The advantage of such a network is the simplicity of its structure (Nakamoto S., 2018). All network nodes constantly exchange information. There is no need for identification, since messages do not follow a particular route, information is transmitted on the basis of the principle of “least cost”.

In the future, the blockchain will be identified as a separate technology that can be used in addition to cryptocurrency. This technology is called "Distributed Registry Technologies" (Distributed ledger technology - DLT).

2. Method

Blockchain is a multifunctional and multi-level information technology designed to reliably account for various assets. Technology securely distributes storage of records of all ever committed transactions. Blockchain is a chain of data blocks, the volume of which is constantly growing as new blocks with records of the most recent transactions are added. This is a chronological database. Data is represented by a sequence of records that can be supplemented. Records along with supporting information are stored in blocks. Blocks are stored as a single-linked list. Each participant is represented by a node, which stores the entire current data array and contacts with other nodes. Nodes can add new entries to the end of the list, and also inform each other about changes to the list.

Consider the mechanisms and characteristics that support this activity.

The basic model of data distribution in a system built on the blockchaincan be represented by a set of actions:

1. A new transaction is sent to all network nodes, the network is built on the principle of a peer-to-peer network, the transaction enters the raw data pool on these nodes.

2. Machines specialized by miners add transactions located in the raw data pool to the block.

3. Each miner tries to pick up a hash of the block that meets the network rules (in the Bitcoin blockchain there is a certain number of zeros at the beginning of the block hash). This operation is called proof-of-work. There is another way to confirm the right to perform a block-making operation - a method of confirming a stake (proof-of-stake).

4. As soon as the miner receives a satisfying hash of the block, the data block is sent to all network participants, and the miner himself receives a reward for adding the block.

5. The nodes that have received this block check for the correctness of transactions and the absence of so-called double spending. If the block fails validation, it is discarded.

6. If agreement is reached on the correctness of the block, the miners start working on a new data block based on the hash of the newly added block (Nakamoto S., 2018)

All transactions are carried out with a cryptographic confirmation.

When registering on the network, each network participant receives two cryptographic keys: a private one - for encrypting a transaction, and a public one - for verifying a transaction.

When sending a transaction to the recipient, the sender signs the hash of the previous transaction and the recipient’s public key and adds this information to the end of the transaction. The recipient can verify the entire transaction chain by checking all the signatures of the previous participants in the transactions (Nakamoto S., 2018)

The hash in this scheme is a data array transformed by a hash function. The transformation results in a unique alphanumeric string that cannot be converted in the opposite direction. The combination of using public and private keys with hashing gives the blockchain technology a high level of data security.

Each subsequent data block is based on the hash of the previous block. If one of the miners tries to add a block that does not comply with this rule, then such a block is automatically rejected by other members of the blockchain network. In order for the miner to add a non-valid block, it is necessary to change the hash of all previous blocks, up to the so-called "genesis block" - the first block in the system. This block is usually specified by system developers. From this, one of the essential properties of the distributed registry technology arises - the information that has entered the block chain cannot be changed after the fact.

It must be said that the addition of new blocks by miners occurs according to certain principles. These principles were introduced into the system to increase the security of the blockchain and at the same time ensure the decentralization of the system.

At the moment there are two basic principles of adding a new block to the block chain - this is proof of the work done (Proof-of-work, or PoW) and confirmation of a share (Proof-of-stake or PoS). Due to the fact that the security of the blockchain does not rely on a single certification authority, such as a bank, with its security infrastructure, each of the nodes of this system does not know beforehand which version of the database is valid.

In the Bitcoin blockchain, network security relies on the Proof of Operation (PoW) algorithm in the mining process of blocks. Each node that wants to participate in the mining process must solve a computationally complex task in order to guarantee the validity of the block. The award for the decision is automatically credited to the miner with new bitcoins.

If an attack occurs on the blockchain database, the attacker must accomplish the same task as the rest of the network, i.e. the attack will succeed only if the attacker can attract significant computational resources.

Network security is supported by the following resources: specialized equipment for carrying out calculations; electricity required for equipment operation.

The idea of the share confirmation algorithm (PoS) is as follows: instead of computing power, the likelihood of creating a new unit and receiving an appropriate reward is proportional to the user's share of ownership in the system.

The users with the largest shares in the system have the greatest interest in maintaining the security of the network, as they will suffer the most if reputation and cost of cryptocurrency falls as a result of attacks. To conduct a successful attack, the attacker must acquire most of the currency, and it will be prohibitively expensive if the system is quite popular (Nakamoto S., 2018). The main characteristics of the distributed registry technology: decentralization; openness of the entered data; mathematical-cryptographic protection of information; the inability to change once entered into the system data.

3. Experimental results

The growing demand for global socio-political and economic reforms has led to serious changes not only in the so-called social contract, but also in the international legal system as a whole. Virtual currencies (cryptocurrency) have become one of the key tools on the way to these evolutionary changes. Attempts of effective legal regulation of cryptocurrency vividly illustrate the problems faced by state structures around the world not only in creating the optimal legal platform for cryptocurrency business, but also in trying to identify and understand the phenomenon of decentralized systems in general.

In the case of individual states that are at the forefront of the global financial economy, the historical context vividly illustrates the complete inability of some of them to adequately and competently respond to innovations and increasing technological progress.

For example, Australia, striving to provide favorable conditions for the development of the cryptocurrency industry and create its own financial and technological centers, demonstrates its intention to become one of the most progressive jurisdictions and does not rule out the use of decentralized network of blockchains in various areas of government regulation). The possibility of using the blockchain is also considered by Australia Post Non-state projects related to digital money are also actively developing (Information Paper for the Payments System Board, 2013).

In 2013, the Reserve Bank of Australia identified the Bitcoin cryptocurrency as an alternative to currencies of different countries and the payment system (CoinDesk, 2018).

The Australian Securities and Investment Commission does not consider digital currency (cryptocurrency) as a financial product. Cryptocurrency activity (mining), or the use of cryptocurrency as a means of payment or exchange are not subject to licensing (Australian Digital Currency business association, 2018).

Standards for conducting a cryptocurrency business are established and are binding for members of the Australian Digital Currency & Commerce Associaton (Australian Digital Currency business association, 2018). This organization may impose penalties on them. The UK is the leader of cryptocurrency integration and the most favorable jurisdiction for conducting a cryptocurrency business. The UK at the state level provides support to the cryptocurrency community and cryptocurrency-related startups. The Bank of England conducted research on the hypothetical risks for the monetary system from digital currencies from 2014. The conclusion is that the risks are so minimal that possible regulation of cryptocurrencies will prevent their criminal use and support innovation in this area has been made (The UK Government, 2015.) Invesco investment company launched an ETF on the London Stock Exchange, which takes into account the performance indicators of 48 leading companies that make real profits from blockchain technology. The new fund was named Invesco Elwood Global Blockchain ETF and it will track the indexes of such giants as Samsung Electronics, Apple, Intel, CME Group, Overstock, SoftBank, SBI, Microsoft, Nvidia and other similar companies.

To launch the blockchain-ETF, Invesco began working with the London-based investment company Elwood Asset Management, which provided a global stock index.

The position of the UK government in the legal regulation of cryptocurrency activities is not developed. Digital money activities are in a gray area.

Hong Kong became a special administrative region of China and gained independence from the UK in 1997. This is the reason for the peculiarity of the Hong Kong legal system: until 2047, it will act as both Hong Kong law, adopted before 1997 (formed under the influence of the UK) and Chinese law (regulates the defense and foreign policies). Here, as in the UK, cryptocurrency is in a legal vacuum, and tax legislation does not provide any special rules for its taxation.In February 2015, the Hong Kong Bitcoin Exchange went bankrupt and closed, which caused its investors to lose about 387 million dollars. The same month, the Hong Kong Monetary Authority made a statement in which it noted that given the speculative nature of Bitcoin, it was necessary to take extra caution in performing cryptocurrency operations. In November 2016, the Hong Kong Monetary Authority issued a report, warning that the massive introduction of Blockchain technology could increase the risk of its use for criminal purposes. The European Union has taken a different path in the legal regulation of cryptocurrency business. Member States of the European Union are traditionally considered favorable for conducting a cryptocurrency business.

None of the regulators of the European Union has adopted any special rules for the regulation of cryptocurrency activities. In 2012, the European Central Bank (European Central Bank) published a report in which it stated that the traditional regulation of the financial sector is not applicable to bitcoins. Bitcoin itself in the document was defined as a convertible decentralized virtual currency (European Commission, 2016).

In 2016, the European Commission announced plans to tighten reporting standards for cryptocurrency exchanges and companies that provide cryptocurrency wallets to users. In particular, the European Commission planned to require European cryptocurrency exchanges and cryptocurrency purse providers to carry out mandatory user identification (CoinDesk, 2013). In 2015, the European Court of Justice issued a decision according to which bitcoin should be considered as a currency (means of payment), and not a commodity. At least in terms of taxation. Thus, bitcoin buying and selling operations for traditional fiat currencies should not be subject to value added tax. Prior to this, national regulators treated the taxation of a cryptocurrency in different ways. The procedure for taxing a cryptocurrency and other taxes on it is regulated by the national legislation of member states, depending on the nature of the cryptocurrency operation. In this case, as a rule, for the purposes of taxation, digital currency is considered as an intangible asset or commodity, and not as currency or money.

The Netherlands Central Bank plans to continue to study and implement the blockchain technology. The director of payment and market infrastructures at De Nederlandsche Bank (DNB) Petra Hilkema (Petra Hielkema) said that the use of new technologies, such as the blockchain and artificial intelligence (AI), will be a key focus for DNB payment strategy development for 2018-2021.

Hilkema encouraged central banks to continue to develop and invest in new technologies in order to explore the possibilities of their safe use. Expressing confidence in the high potential of distributed registry based (DLT) applications for cross-border payments, Hilkema noted the need for innovation.

In Japan, the internal turnover of bitcoins, as well as Ripple, Litecoin and other currencies reached 185 billion yen (1.67 billion dollars) in 2015. By 2020, it is predicted to increase to a trillion yen. In 2017, Japanese legislation was amended to allow the use of virtual currencies as a means of payment. This amendment to the Law on Payment Services defines cryptocurrency as a "property" that can be used to purchase goods and services. The Financial Services Agency of Japan (FSA) proposed to merge Bitcoin and other virtual currencies into a single category called cryptoactives. In March 2019, the Japanese railway company JR East, in cooperation with Internet provider IIJ and cryptographic stock exchangeDeCurret, announced its intention to develop a platform for buying railway tickets for cryptocurrency. In November 2018 The Monetary Authority of Singapore (MAS) and the country's stock exchange (SGX) developed a calculation system for tokenized assets that can work with various blockchains. The new system, which uses the DVP (Delivery Versus Payment) scheme, uses smart contracts to automate post-trading operations, helping to shorten the transaction settlement cycle.

In March 2019, BMW Group Asia and Intel announced that they would become curators of blockchain startups from Singapore. Thus, the BMW Group Asia will hold a series of master classes on the use of the blockchain under conditions of widespread demand. Intel Corporation will advise start-ups in business and technology development.

The government of Argentina in 2019 announced its intention to make significant investments in the early development stages of blockchain-startups supported by the venture division of the Binance cryptocurrency exchange.

In Norway, Finland and Germany, the cryptocurrency is subject to capital gains tax and wealth tax. In Bulgaria, digital currency is considered as a financial instrument and is subject to appropriate taxes (Lexology, 2016). In Austria, the cryptocurrency is considered by the tax authorities as an intangible asset, and its mining as an operating activity. Therefore, the income received as a result of its alienation is subject to income tax.

In general, legal regulation of cryptocurrency and operations with it in the European Union is carried out within the framework of the policy of countering the legalization (laundering) of proceeds from crime and the financing of terrorism. With regard to cryptocurrencies, the United States of America took the path of tax regulation in the field of cryptocurrency trading, forcing all American cryptocurrency exchanges to verify their clients. At the same time, the USA is one of the most convenient countries in the world for running a cryptocurrency business. But the legal regulation of digital currency in the United States is no less complicated than in Europe. This is mainly due to the peculiarities of the legal system of the state (the presence of both federal law and state law) and the lack of a common position among regulators regarding the legal status of cryptocurrency.

In 2012, the US Federal Bureau of Investigation released a report entitled “Virtual Bitcoin, the unique features of which present certain difficulties in deterring illegal activities.” In it, the FBI expressed its concern about the possibility of carrying out illegal activities in the anonymous Bitcoin payment system (Federal Bureau of Investigation, 2012). In 2013, representatives of the Federal Reserve System identified cryptocurrency as "a threat to the banking system, economic activity, and financial stability."

However, later, the ItBit Trust cryptocurrency exchange, having received the Charter of the New York State Trust Company Charter from the Department of Financial Services, became the first officially regulated bitcoin exchange.

In the first quarter of 2019, about 80 organizations from the United States of America lobbied bills related to cryptocurrencies and the blockchain.

According to the Federal Election Commission, about half of lobbying cases were associated with cryptocurrencies, with total quarterly lobbying costs reaching more than $ 42 million. Among the largest supporters of cryptocurrency were the companies Ernst & Young and Accenture, as well as the US Chamber of Commerce, which generally spent $ 16.4 million on lobbying fintech. MasterCard's lobbying costs, including issues related to cryptoactive assets, totaled $ 720,000.

Canada ranks second in the world after the USA in the number of Bitcoin-ATMs, which indicates the high popularity of cryptocurrency in this country. In order to better understand the blockchain technology, the state is developing a digital version of the Canadian dollar based on it. In June 2016, the Bank of Canada announced that it was developing a digital version of the Canadian dollar based on Blockchain technology in order to better understand the nature of such technology (Forbes, 2016).

In 2015, a report of the Senate Standing Committee Banking, Trade and Commerce was published, according to which the best strategy for dealing with cryptocurrency is to monitor the situation as technology develops. At the same time, the regulatory policy of the government in the field of digital currencies and decentralized technologies should be reduced only to a “light touch” (Senate of Canada, 2015).

Five Canadian banks will use the blockchain-based user identification system developed by the startup SecureKey Technologies. The Verified.Me digital identification system will now be available to customers of Royal Bank of Canada, Toronto-Dominion Bank, Bank of Nova Scotia, Canadian Imperial Bank of Commerce and Desjardins Group. In addition, it is reported that soon the service will also be available to users of the services provided by Bank of Montreal and National Bank of Canada, and Sun Life Financial will become the first North American insurer using this system.

SecureKey CEO Greg Wolf (Greg Wolfond) said that consumers will use the service to verify their identity and open bank accounts, as well as access to government services by the end of 2019. The state continues to monitor the development of digital currency and distributed technologies, regulating cryptocurrency activities only when necessary.

China is one of the fastest growing financial and technological markets in the world. This is where most of the mining pools are located, that is, special web services that are used to distribute computing power. In 2013, the People's Bank of China indicated that there was no ban on the implementation of cryptocurrency transactions. At the same time, Bitcoin was defined as a kind of asset, not a currency (Coin Desk, 2014).

In 2016, 70% of transactions in the Bitcoin network passed through the Chinese mining pools, while 40% of all transactions were in cryptocurrency exchanges located in China. Then it became known that virtual property (including digital currencies) could soon be recognized as a "fundamental human right" in China. The relevant definitions are contained in the new draft of the main provisions of the Civil Code of the country.

The current legislation of China does not contain any special tax rules and transactions with it. At the same time, a cryptocurrency is defined as a virtual commodity, not a currency. Thus, the sale of digital money may be subject to value added tax, and income and profits in cryptocurrency are subject to income tax, income tax and capital gains tax. Every year the number of cryptocurrency business incorporated in China is growing. However, the approach to the legal regulation of cryptocurrency relations in China is still not developed.

In Latin America, digital currencies are popular (a report was published in 2015, which showed an increase of 510% in the number of cryptocurrency transactions in Latin America), and the management of cryptocurrency business is promising. This is mainly due to the unfavorable economic situation in many countries of the region.

Venezuela is a vivid example of this. In January 2016, the International Monetary Fund published a report, according to which in 2016 the state's inflation rate will exceed 700%. In 2017, according to the IMF, the inflation index should be 1,600%. But along with rising inflation in Venezuela, the number of transactions in Bitcoin increased: in the first week of August, the size of Bitcoin transactions through the LocalBitcoins platform reached a record figure of 14.2 million dollars. The number of Bitcoin users in 2015 doubled compared to 2014. At the same time, Bitcoin in Venezuela is regarded as a property, not a currency. In December 2017, Venezuelan President Nicolas Maduro announced the creation of a national cryptocurrency Petro to overcome the "financial blockade" by the United States. Petro is built on a blockchain platform. So, in order for transactions to become possible, you need to have a special digital wallet. Unlike the usual cryptocurrency, Petro, according to the Venezuelan authorities, is provided with the country's raw material resources. The Venezuelan government promises, that the state will accept Petro as payment of taxes and fees, as well as payment of public services. Investors in Denmark, Norway, Poland, Honduras and Vietnam expressed interest in Petro.

Central Bank of Argentina in 2014 already warned citizens about the risks associated with the use of cryptocurrency. Despite this, in the same year, the cryptocurrency exchange Bitex.la was launched in Buenos Aires, which then raised two million dollars as investments.

In 2015, the president of Argentina became Mauricio Macri, who is considered one of the most progressive presidents in all of Latin America. He supported the idea of introducing Bitcoin in the country. In 2016, the Uber service cooperated with the Xapo service (service provides cryptocurrency debit cards) in order to circumvent bans on foreign credit cards and accounts in foreign currencies. From 2016, you can pay for taxi services in Argentina using Bitcoin. However, in accordance with the legislation of Argentina, cryptocurrency is not a national currency, but can be considered as money.

In Brazil, the Central Bank also initially warned of the risks associated with the use of digital money. At the same time, in order to tax cryptocurrency transactions, the Federal Tax Service considers digital money as a financial asset.

In Colombia, the Central Bank noted that digital currencies are not currency and legal tender. And in Ecuador and in Bolivia, cryptocurrency is officially banned. In addition, in Thailand, Vietnam, Iceland and Bangladesh, transactions with bitcoins are prohibited and illegal. The rapid growth in the distribution of mobile money in Africa came as a surprise to the whole world, since only a few experts believed that this continent was able to embrace new technologies. Over the past decade, mobile connection spread level has increased from a modest 3% to 80%, allowing mobile money platforms to use new technology to offer payment solutions.

Thus, Africa has become the fastest growing market for digital money transfer solutions. Zimbabwe and Zambia are taking a hard line against Cryptos and Blockchain, and they prohibit their citizens from investing in digital tokens.

On the other hand, Mauritius provides a “sandbox” for regulators, which is very progressive, even by world standards.In East Africa, Kenya has a pragmatic approach. A task force has been set up in the country for studying the use of artificial intelligence and digital tokens. Before the commission released its findings, the National Land Commission of Kenya had already advanced and adopted Blockchain for its land registry in order to mitigate fraud in transactions with land. The private sector of the country also covers DLT with TMT Global Coin, which offers blockchain-based logistics services.

In West Africa, the central bank of Nigeria publishes an information document on the risks and opportunities of cryptocurrencies for the Nigerian economy on the eve of regulation. Statistics show that sub-Saharan Africa has the second largest non-banking adult population in the world. Millions of people lack a bank account, and Blockchain and cryptocurrency can offer them the benefits of affordability.

In 2018, the Turkish stock exchange supported by the state, Borsa Istanbul, announced the creation of a blockchain platform that will store new customer data and documentation in a decentralized network. According to the developers, the platform meets all the requirements of KYC, registration of new customers and secure information sharing. The work of the new platform has already been tested by several organizations, including the national settlement depository, the clearing and settlement authority.

The report indicates that in the project, which was prepared by the Borsa Istanbul IT team, information in the customer database of Borsa Istanbul, Istanbul clearing, a settlement-depositary bank (Takasbank) and the Central Securities Depository of Turkey was synchronized. The platform will allow to simplify document workflow, entering data about the client or editing this data. Thus, it is possible to avoid possible errors when entering information into the database. The creation of a blockchain platform by the Turkish stock exchange unites a growing industry in which some of the world's largest exchanges are increasingly turning to blockchain technology.

In turn, attention should be paid to the experience of Ukraine, which is among the top 10 countries in the world in terms of the number of Bitcoin users. Initially, the National Bank of Ukraine equated cryptocurrencies to money substitutes that have no real value and are not allowed to be used by individuals and legal entities. However, after lengthy consultations with the Bitcoin communities in 2016 in Ukraine, a memorandum was signed on launching a system of decentralized online auctions in state institutions at municipal and regional levels, created for the privatization and leasing of state property, creating licenses. Also, the concept of the e-government portal E-Ukraine was presented with the aim of interaction between citizens, business and the state.

In 2016, the Ukrainian Stock Exchange became the first platform in the world where futures (derivative securities) for cryptocurrency were traded. The National Bank of Ukraine announced the possibility of issuing electronic hryvnia, which will be based on the blockchain technology in December 2017. The legislation of the Russian Federation currently does not define either the term “cryptocurrency” or its legal status, which entails a heterogeneous approach to these issues by state bodies. From the letter of the Federal Tax Service of October 3, 2016, it follows that Russian legislation does not explicitly prohibit Russian citizens from performing operations using cryptocurrency, which the Federal Tax Service qualifies as foreign exchange transactions. Chairman of the Central Bank of the Russian Federation Elvira Nabiullina October 5, 2017 stated that cryptocurrency is a private digital money, should not be legalized as a legal means of payment.

In the Russian Federation, blockchain technology is used by banks, government agencies, innovative enterprises. In 2018, Rospatent implemented three blockchain projects.

In 2017, Sberbank made the first monetary transaction using a blockchain based on the IBM Blockchain platform, the foundation of which was the HyperLedger Fabric architecture. A credit institution uses distribution registries to exchange documents with the FAS RF.

The trading company M.Video with the participation of Alfa-Bank and Sberbank launched the project of an innovative blockchain consortium. The implementation of the online platform is based on Ethereum, due to its purpose: the implementation of factoring. The use of technology has expanded the possibility of interaction between counterparties. S7 Airlines company, with the support of Alfa-Bank, organized the automation of ticket sales.

To do this, they launched a special platform based on Ethereum. Smart contract technology allows to set sales terms. In QIWI, Blockchain Technologies attempted to create a new Russian cryptocurrency (Bitruble). However, this attempt failed.

This breakthrough regarding the official definition of the cryptocurrency status was made by the Republic of Belarus, whose president signed Decree No. 8 on December 21, 2017. According to paragraph 4 of Annex 1 to this decree, the cryptocurrency is defined as bitcoins or another digital sign (token) that is used internationally means of exchange.

Estonia is most keen to attract the attention of cryptocurrency specialists. Estonia does not regulate the circulation of cryptocurrency. Estonia has intentions to regulate the circulation of bitcoins, however, the question remains open. The issue of allocation of special zones with a special status for cryptocurrency is being considered.

In the list of countries leading the introduction of blockchain Georgia occupies a special place. Using the blockchain technology, the National State Register Agency in the Republic of Georgia (NAPR) can provide its citizens with a digital certificate of their assets with cryptographic evidence, which is published in the Bitcoin blockchain. The main objective of the project was to develop the most reliable solution that will ensure data security, audit capability and system transparency for citizens and governments.

The same NAPR collaborates with Bitfury, the world leader in mining equipment manufacturing. The purpose of this cooperation is to assist in the implementation of services for the purchase and sale of property rights to land, the registration of mortgages on real estate and notarization of documents.

European countries are competing ahead of the curve. A country in which the conditions for the existence of cryptocurrency will be more acceptable, will receive an additional resource for development. If we talk about the leadership of individual countries, then Italy comes first. According to the independent agency SoinTelegraf in 2016–2017 In Italy, 269 Bitcoin operators and 4 Bitcoin ATMs were registered (1 operator per 225,800 residents). The United Kingdom is in second place in Europe - 11 ATMs and 362 operators are used here (the ratio is 1/177 000 inhabitants). In third place is Finland: 7 ATMs, 34 operators, 1 operator per 160,000 inhabitants. Then the Netherlands: 53 ATMs, 968 operators, 1 operator per 36,500 residents, Slovenia: 4 ATMs, 58 operators, 1 operator per 35,500 inhabitants. The use of the capabilities of electronic voting, among other things, seemed interesting and in demand, including on the basis of unmanaged e-proxy voiting technology. This kind of technology could be a successful continuation of crypto-secure voting systems that were tested in the United States at one time and rejected due to a crisis of confidence.

Conclusions.

The development of technology has repeatedly led to a change in the political and economic picture of the world. The development of technology that makes it possible to abandon the centralized guarantor of authenticity and depository of information may raise the question of the leading role of the state in managing politics, economics and other aspects of life.

Analysis of the main applications of blockchain technologies should be carried out with an emphasis on identifying possible effects from their use in the banking sector and the development of the digital economy.

Pros and cons of the blockchain. The advantages of the blockchain technology undoubtedly include reliability, since there is no possibility of data substitution and hacker attacks due to the use of special encrypted keys. Other advantages are decentralization, transparency in the conduct of any transaction, the universality of the application of technology (finance, law, real estate).

Disadvantages are the complexity of scalability, and no possibility of canceling the data transfer operation, the so-called "Attack 51%".

It should be noted that the banking sector, which is threatened by the spread of the decentralized blockchain / bitcoin system, is actively working on various projects and consortia related to the solution of various issues of using this technology. This is evidence of the serious transformational potential of blockchain technologies, and there is every reason to assume that the blockchain will become one of the most important components of the emerging digital economy and those innovations that will lead the post-industrial development to a fundamentally new level.

References.

Australian Digital Currency business association (n.d.). Australian Digital Currency Industry Code of Conduct.

Coin Desk (2014). China's Central Bank Governor: PBOC Won't Ban Bitcoin.

CoinDesk (2013). EU Banking Regulator Issues Warning on Virtual Currencies.

CoinDesk (2018). Australian Regulator: Bitcoin is Not a Financial Product.

European Commission (2016). Questions and Answers: Action Plan to strengthen the fight against terrorist financing.

Federal Bureau of Investigation (2012). Bitcoin Virtual Currency: Intelligence Unique Features Present Distinct Challenges for Deterring Illicit Activity.

Forbes (2016). Canada Has Been Experimenting With A Digital Fiat Currency Called CAD-COIN

Latham & Watkins LLP (2016). Virtual Currencies: Court Rules that Selling Bitcoin Is Not Money Transmitting and Selling Bitcoin to Criminals Is Not a Crime. Latham & Watkins While Collar Defense & Investigations Practice and Financial Institutions Group.

Lexology (2016). Bit Coins: Decrypting the Currency.

Nakamoto, S. (2008) Bitcoin A Peer-to-Peer Electronic Cash System Information Paper for the Payments System Board // Reserve Bank of Australia. May 2013.

Senate of Canada (2015). Digital Currency: You Can't Flip This Coin!.

UK Government (2015). Digital currencies: response to the call for information.

Mariya Kashka
Candidate of Historical Sciences,
Associate Professor of Tourism department,
State University «Uzhhorod National University»,
Uzhhorod, Ukraine

WOODEN CHURCHES IN THE TRANSCARPATHIAN REGION AS RELIGIOUS TOURIST ATTRACTIONS

Abstract*. The section is dedicated to wooden churches preserved in the territory of Transcarpathia as valuable monuments of sacral heritage representing the culture of the Ukrainians. It is emphasized the specific character of the Transcarpathia autochthonous population reflected in its religious outlook which is attributed to the historical fact that this region has been a part of various state formations. The latter, in turn, have made an impact on the culture and religion of the local population. The Ukrainians` religious tolerance has made it possible to develop different religions in the Transcarpathian region and, at the same time, to successfully preserve the indigenous people`s religious heritage objects within this territory. The historical features and the current state of the Transcarpathian wooden churches, as well as opportunities and prospects of their use as religious tourist attractions, are considered.*

JEL Classification: Z32, Z39

Introduction.

Transcarpathia is an extremely rich land in religious tourist attractions. It is, in turn, closely connected with the region history and mentality of the population living in this territory. The fact that Transcarpathia during its history was a part of various states is reflected in the religious specificity of the region which is still the case to date. It exerted an especially strong influence on the architecture of small towns and villages. A significant number of historical, cultural and religious buildings have been lost, but some of them have managed to preserve its original, functional purpose to the present day representing the Transcarpathian autochthonous population`s culture. This architectural heritage may serve as an excellent basis for religious and pilgrimage tourism development for representatives of different nations and religions.

The author`s objective is to investigate religious objects in the Transcarpathian region, namely, wooden churches representing the historical features of the region where, apart from the liturgy, cultural and educational events were held. Excursions to the iconic places of the religious past in Transcarpathia have become popular. This is evidenced by numerous thematic guides printed in Uzhhorod or abroad. The tourist industry offers services through the Internet. Among them, there are excursions where wooden churches are the main places of interest (Transcarpathian Tourist Information Portal). The most expressive monuments of the region`s cultural development, and besides, the ones that are better preserved, are secular and ecclesiastical architectural monuments. Only castles as one of the oldest secular monuments have survived to our days. However, they are either radically rebuilt in the spirit of time requirements and the art of fortification, or are in ruins.

1. Historical features of church building in Transcarpathia

Church building in Transcarpathia and in the Tisa lowland began approximately in the 9th century with the arrival of Christian missionaries from Great Moravia, most likely Methodius's disciples. This fact is mentioned by Ye. Nedzelskyi, the Russian historian, claiming that Methodius's disciples who were forced to leave Great Moravia in 886 went to Eastern Slovakia and in Subcarpathian Rus where they found significant opportunities for the spread of Christianity. It was built the churches of St. Demetrius of Thessalonica deeply respected by Constantine (Cyril) and Methodius the Thessalonian brothers, their teachers (Nedzelskyi, 1942).

Church architecture in the land under the Carpathians (present Transcarpathia) has more than a thousand years of history. It begins at a time when, according to Grand Moravian Prince Rostyslav, the teachings of Jesus Christ were spread among the Pannonian, Carpathian and Danubian Slavs. All of them preached in Latin or Greek.

Understanding the complexity of the situation, Grand Moravian Prince Rostyslav appealed to Byzantine Emperor Michael III to send missionaries to Great Moravia who could have been preaching in the Slavic language. So, in 863 (864?) in Great Moravia there appeared Christian preachers from Thessaloniki in Greece also speaking Slavic. They were brothers Constantine and Methodius. (Uspenskyi collection of the 12-13th centuries, 1971).

The missionaries understood that the preaching of the Christian doctrine without churches would not produce the desired effect. Therefore, we can assume that together with the missionaries "from the Vlachs, Greeks and Germans" there were church builders, or most likely, the missionaries combined their missionary education activities with construction ones. It is worth taking into account the fact that the Middle Ages was a deeply religious era which cannot be imagined without a church and a cloister – its inherent and the most defining attributes, its symbols which are marvelously accurate and strong influencing the whole society. Therefore, churches and cloisters are built everywhere in the most convenient place, so that even the surrounding landscape emphasizes their peculiarity.

As already noted above, our region`s church architecture has a thousand-year history. However, no architectural monument of this period (the 9th century) has been preserved there, and only the rotunda in Horiany near Uzhhorod shows the connection with the Great Moravian church architecture. However, the rotunda itself was erected, in all likelihood, in the 12-13th centuries. It has a logical explanation because stone religious construction in our region became widely developed after the invasion of the Tatar-Mongols in the 13th century. After the Tartar-Mongols left Central Europe in 1243, our land was completely incorporated into the Kingdom of Hunagria, and in the ruined valleys of the Tisa, Latorytsia and Uzh rivers, colonists invited by the Hungarian kings from the German lands came. They brought to our region traditions of stone religious construction in the Late Romanesque and Gothic styles. At the end of the XIII- early XIVth century in their settlements, villages, and towns there were erected small Romanesque and Gothic churches some of which have survived to this day.

Of course, they cannot be compared with the monumental architectural objects of these styles in Western European religious centers. As we see, stone religious construction in our region (until the XVIIIth century) peculiar primarily to the Catholic Church had followed the traditions of the European architectural styles in their Central European version up to the twentieth century (Pop , 2009).

Stone church building in our region is not marked by such masterpieces as wooden one. Because at all times it was provincial, derived from the cultural centers of the Romanesque, Gothic styles, Baroque, Classicism of Vienna, Budapest, Prague, and Kosice. In this territory, there are no traces left of the religious buildings of the 9th or 10th centuries. This is mainly due to the fact that in our mountainous and wooded area from ancient times the main building material has been wood, since forests until recently occupied 2/3 of the region`s territory. Therefore, woodlands in the early period of the region`s history became the basis of wooden architecture. In the period when it was established contacts between the region`s inhabitants and the ancient culture of the Balkans and the Mediterranean, various construction techniques and some related construction forms were developed in the Carpathians.

The reliefs on the famous Roman emperor Trajan's column (II century BC) are indicative of their existence commemorating the Roman commander`s victory over the Dacians who inhabited the Carpathians at the time. On some reliefs you can see the construction of horizontally laid logs. Construction coatings resemble shingle. The tower shape is also interesting. It seems to be the prototype of a wooden bell tower with a pyramidal roof which is still quite common in the Carpathians nowadays. Next to the tower, we can see the hayrick stacked in the same way as it is done these days – on a spruce pole with short branches ("pockets").

The basic principles of the wooden construction technique in the Carpathians were developed before the appearance of religious Christian constructions and further elaborated in wooden church buildings. Nowadays, in the region there are fewer than a hundred of them survived, the oldest is in the village of Kolochava-Nehrovets erected in the fifteenth century. However, in recent years, new churches have been built in Rakoshyno, Luchky (the Mukachevo district), in Uzhhorod, in Lumshory of the Perechyn district, in the Mizhhirskyi and Tiachiv districts. All of them are of different types. It must be said, church division into types is rather conventional, as well as the division of the Carpathian population into the Boykos, Lemkos, and Hutsuls, since only the territory where the latter live can be more or less clearly defined. The Czech sources state that "...Western Carpatho-Ruthenian wooden constructions are influenced by Western Latin and Eastern Byzantine traditions ... The penetration of these cultures in the Carpathian region took place much earlier as a result of economic and trade relations with countries having higher culture"(Vavroušek, 1929). Thus, it is also not surprising that in Western, Central and Eastern Europe there is probably no region where it would be possible to find such a variety of church wooden architecture styles as in our region.

In ancient times, in our village, the only public building was a church. For centuries, it has been not only a prayer center but also a true folk art museum where the works of art were gradually accumulated: wall paintings, icons, carved iconostases of great art value, church utensils made of gold and silver. Various administrative and ecclesiastical acts, liturgical books were also kept there.

As mentioned above, among wooden churches in the Carpathians there distinguished "Boyko", Lemko", "Hutsul" style churches and the Maramures group of wooden Gothic.

Boyko style	Lemko style	Hutsul style	Wooden Gothic
Uzhok village, 1745	Shelestovo, 1777	Yasynia, 1824	Krainykovo, 1668

Fig. 1. Style churches and the Maramures group of wooden Gothic

A) the Boyko style church is a triple-log building following the tripartite floor plan. The central log construction is bigger and higher than the side ones, square or rectangular in shape, extending from north to south with a tent-stepped ceiling formed by alternating the cut pyramids with low square log constructions which gradually become smaller as it goes higher (Sichynskyi ,1927).

In our region, Boyko churches are usually miniature. In their construction, picturesque principles predominate over monumental ones, perhaps, giving them a special charm and beauty.

B) the second most common type of wooden churches was Lemko. Its feature is a peculiar composition of towers gradually growing from small over the altar through the central multi-gorge one to the high tower of a baroque type. Due to the fact that the vertical parts of the gorge are low, there are a lot of them, so the silhouettes of such churches are beautiful and picturesque. Lemko style churches were the most widespread in our region in the XVII-XIXth centuries, especially in the plains and foothills. Unfortunately, today it is represented by only two churches: it is Mykhailivska in the village of Shelestovo built in 1777 which is located in the Skansen, Uzhhorod and the church in the village of Bystryi near Svaliava built in 1758. Other Lemko churches were taken out of the region in the 20th century. In 1927, from the village of Medvedivtsi such a construction was taken to Prague where it is still situated now at the park on Petrin hill; in 1931 from the village of Glynianets the church was transported to Kunchytsi in Moravia; from the village of Obava - to Nova Paka in Eastern Bohemia, and in 1970 the church from the village of Kanor was transported to Uzhhorod, from where in 1974 it was delivered to the Kiev Folk Architecture Museum.

C) The third type of our churches is Hutsul. Unfortunately, to date, only 3 wooden churches have been preserved in the Hutsul region - in Trybushany, Yasynia and Lazeshchyna. The Hutsul style is represented by only two of them – Strukovska or Ascension church in Yasynia built in 1824, and the church of Peter and Paul in the village of Lazeshchyna (1780). The basis of the plan of these buildings is the equidistant cross where the longitudinal row of sections on the east-west axis is complemented by two side forechurch constructions from the south and north. The side log constructions are covered with saddle roofs, and above the centre one, there is an octagonal drum covered with a tent roof with an onion dome and a cross. The entire church is surrounded by a wide shed which is based on the consoles coming from the joisting. The windows are cut in the log construction over the shed and in the drum. These churches are unique monuments of Hutsul church art.

G) In addition to the Boyko, Lemko and Hutsul styles of wooden churches, in our region, there is a group of so-called wooden gothic. They are common mainly in the south-eastern part of the country, in Maramorosh, where in the late 18th century a kind of carpentry school was formed. The masters of this school built churches in Neresnytsia (1751), Dibrov (the 16th century, rebuilt in the 18th century), Novoselytsia Vynohradivska (the beginning of the 17th century, rebuilt in the 18th century), Chetovo (the 18th century), Nehrovets (18th century, rebuilt in 1818), Repynne, (the 18th century), and Pylypets, (the 18th century). Typically, they form one group with the wooden religious constructions of neighboring Romanian Transylvania and the northeastern part of Hungary.

However, the perfection of the forms, technical equipment and construction of the wooden gothic group of monuments in the villages of the Khust district (Steblivka-Sokyrnitsia-Krainikovo-Danylovo-Shandrovo) allows us to assume that the center of the construction artel, even the school of masters were located here. For this type a peculiar feature is a tall saddle roof, a tall thin tower over the antechurch with a gallery, a high spire the transition to which is complemented with the small decorative towers of exquisite forms at the corners of the gallery (Pop , 2009).

2. Specifics of the use of wooden churches in religious tourism

Unfortunately, not all wooden folk architecture masterpieces can be shown to tourists, since it's very inconvenient to get to remote mountain villages. Therefore, some of them will just be mentioned. The interesting tour itinerary which we offer starts from Uzhotskyi Pass and stretches down the valley of the Uzh River which is located between the mountain ridges fortunately still covered with forests. In these mountains, wooden folk art flourishes. Throughout the centuries, the whole life of our highland has been connected with forests and trees. Therefore, it is not surprising that these fabulous wooden churches appeared here. This is the Velykobereznianskyi district located in the northeastern part of the region (on the map it is in the upper right corner on the border with Slovakia). In this small mountain district, our exposure to wooden church architecture begins.

The district area is 800 sq.km. The population is 35 thousand people. Population density is 40 people per 1 sq.km (Belousov , 1969). The area is mountainous, the villages are small and not rich, and so it is not surprising that there still can be found wooden churches that were erected long ago destroyed in rich villages and replaced with stone ones for unclear reasons.

The population of this region is conventionally referred to by ethnographers as "the Boykos". The church style which is the most common here is also called Boyko. In the Boyko region, wooden art reached its most magnificent flowering, and it was here that these fabulous churches were created and described by I.Hrabar in his day (Hrabar , 1911).

Not far from Uzhotskyi Pass where the Uzh River takes its source the ancient village of Uzhok lies along the highway. In the village center, on the picturesque mountain slope, we can see a magnificent building – the wooden church of St. Michael built in 1745 by artist Paul from Bytlia.

For the first time, the name of the village is found in the written documents of the 16th century. However, in the early 17th century it was struck out of statistical summaries since most of its inhabitants were taken away by the epidemic, and those who were able to survive somehow went as far as possible from this terrible village which was left empty. And only in a few decades, when the disease horrors became a thing of the past, people round there appeared again. The success of the village revival in the 18th century is evidenced by the fact that as long as in 1745 the Christian community of the village was able to build a wooden church, though not without the help of the state. The church has survived to this day. In the church interior, the artist used the contrast of light and shade. Getting from the dark antechurch in the solemn illuminated central part of the construction, the viewer perceives the space as being much bigger than it really is. This effect was certainly taken into account by the talented folk artist. A beautifully diversified iconostasis creates even deeper impressions. Uzhotska church was included on the list of 16 wooden churches in the Carpathian region claiming a special status on the UNESCO list of heritage sites. On June 21, 2013, the Church of St. Michael was included on the UNESCO world heritage list.

Another Boyko church has been preserved in the village of Gusny located a few kilometers away from Uzhok near the sources of the Zhdenivka River.

In Gusny, the three-stored wooden church of St. Nicholas was preserved built in 1655 in the Boyko style. The date of construction is carved on a log. This is a slightly different type of Boyko churches, the monumental forms of the central octagonal roof dominate in its composition. The towers are roofs over the antechurch and the altar parts are saddle, square in shape, so the church seems to be massive. The log constructions of the eastern part and the forechurch are covered with quadrangular tent roofs with one gorge. Above the " antechurch " of the church, there is a gallery, a frame tier of the bell tower is constructed above it. Like in other churches of the Boyko style, the building around the perimeter it can be seen the church porch on the edges of the joisting.

A more complex variant of the Boyko style triple-floor church with two quadrangular frames per each can be found in the village Sukhy. The Church of John the Forerunner was built in 1769. In its proportions, it is slightly different from the constructions in Uzhok and Gusny. The church has a more complex silhouette with the top formed by three towers - here the tower over the " antechurch ", above the central one, serves as a bell tower not violating the proportions peculiar to the Boyko church. The church interior has great artistic value, as not only its magnificent altar but also ancient icons have survived. First of all, attention is drawn to the icons "Crucifixion" created in 1678 by Ivan Vyshenskyi and "The Beheading of John the Forerunner" painted in 1679 by Ivan Shchyretskyi. They represent the folk direction in painting.

One more masterpiece of wooden religious architecture should be visited in the village of Vyshka. The village age is quite considerable - for the first time, Vyshka is mentioned in the royal documents in 1602. There no written documents confirming the fact that in the 17th century there was a church in the village. The existing church of St. Michael was built only in the second half of the 18th century. It is located in a prominent place on the slope of a small hill. At one time, the iconic attribute of the church was the wall and roof covered with shingle of various types. Today, the roof and church porch shingle is replaced with small square sheets of stainless steel.

St. Michael`s Church is a triple-log, three-floor construction built of spruce logs lying on a stone foundation. Log constructions, like in other Boyko churches, are slightly tilted inside. The central one is almost of a square shape and is wider than the others. The central and eastern log constructions are covered with tent roofs with two gorges decorated with onion domes. The same form was initially peculiar to the western tent over the " antechurch ". In the second half of the 18th century over the western log construction, the upper frame tier was built which became the original bell tower with a hidden arcading of resonators around the perimeter of the quadrangular frame.

Another unique wooden church has been preserved in the village of Kostryno – the Church of the Protection of the Blessed Virgin built in 1761. It is still not clear whether there was a church in the village before this time, but the village name is found in the written sources of the 16th century, and only the above-given church is mentioned in documents. It is one of the most beautiful churches in our region. It is of great interest as a transitional type from the Boyko to Lemko architectural styles reflecting the dynamics of gradually increasing volumes from the altar top through the multi- gorged central roof to the high bell-tower of the western type. In the Church of the Protection of the Blessed Virgin, this tendency is just projected, and its builders still keep the bell tower in the shape of tent roofs peculiar to Boyko churches. The clear geometry of architectural forms, the observatory gallery of the bell tower brings it closer to a defensive wooden architecture type. The church interior arrangement is also extraordinary. The low dark antechurch contrastingly enhances the spaciousness and lightness of the wide open space of the middle room making the main emphasis on the magnificent iconostasis.

Unfortunately, the injudicious unauthorized "restoration" of the church led to the fact that it has not been included on the UNESCO list of heritage, despite the fact that it fully deserves it. In the north-eastern part of our region, there are several churches, where the builders do not follow the Boyko style. These are the churches in the villages Sol, Chornoholova and Bukivtsovo. Kostryno is just a few kilometers away from the village of Sol first mentioned in the 16th century. The Church of St. Vasyl which has been preserved here since the 18th century takes on other forms that are not peculiar to the Boyko style of churches. This church was most probably built in the early 18th century, because in 1834 it was significantly rebuilt, resulting in the fact that the second tier of the tent of the altar and nave was covered with a solid double-edged roof, and above the antechurch a baroque bell-tower was built the forms of which were completely borrowed from stone architecture

However, the church interior is arranged based on the principle of three spaces. Due to such a mechanical reconstruction, this monument had lost the proportions of the Boyko church developed over the centuries – its forms became massive. So, the Boyko style moving to the southwest acquires such a feature as a façade with a bell tower from the western architectural styles - Gothic, Baroque.

Another Boyko church built in the 17th century in Bukivtsevo village lying along the Bachivskyi stream shared a similar fate. Tourists can see this church in a short while when the road leading to the village will be fixed.

We can only recall the unique church in the village of Chernoholova built in 1794, as the same road leads to the village as it does to Bukivtsevo.

In the Perechynskyi district, there is only one old wooden church in the village of Lykytsary. This is the church of St. Vasyl erected in the 17th century. However, for tourists, this monument is almost inaccessible, because it is extremely difficult to get to the village by land. What remains for tourists is a wonderful church in Lumshory village, but it was built in our time. There are no wooden churches left in the Uzhhorod district. In Uzhhorod, you can find the wooden church on Kapushanska street which has been erected recently based on the drawing of the church in Neresnytsia village (on March 25, 2003, it mysteriously burnt) and the church of St. Michael located in the Museum of Wooden Architecture. The church was built in 1777 in Shelestovo village, near Mukachevo. On August 5, 1928, it was transported and consecrated in Mukachevo. Church service had been held there until the early 70s. In 1974 it was transported to the Transcarpathian Regional Museum of Folk Architecture and Folkways in Uzhhorod. This masterpiece of wooden architecture I.Hrabar in his "History of Russian Art" in the early 20th century considered as the best example of wooden construction in our region (Hrabar ,1911).

In the church architecture the western and eastern influence in the wooden construction of the Carpathians is the most clearly reflected. The central layout shows its eastern origin, the bell tower signifies the connection with Western art, and multi-tiered tent roofs over the nave and the altar indicate the link with the Boyko architecture of the northern Carpathians.

In the church interior, there was a magnificent iconostasis decorated with the icons by our outstanding icon painter of the 17th-century, IIlia Brodlakochoych-Vyshenskyi. One of the icons, "Archangel Michael" painted in 1666 is kept today in the Transcarpathian Regional Art Museum named after Joseph Boksha in Uzhhorod. The neighboring Mukachevo district, as well as Uzhhorod, is very poor in wooden church architecture. However, in recent years wooden churches have been built in the villages of V. Luchky and Rakoshyno, but only the church of St. Demetrius built in the 17th century ,which is one of the ancient ones, has survived in Vilkhovytsia village. Unfortunately, the architecture monument is distorted by the shed attached to the church pediment. It can also be included in the tourist itinerary in a while.

Having visited Svaliava regional center, it should be mentioned the wooden church in the suburban village of Bystryi. The church is named after St. Nicholas built in 1588. From the ancient structure there were left the log constructions of the antechurch and the nave with the gorges. The church consists of three different-sized log constructions each of which is covered with a separate roof. The church is still functional today. During the church service, the priest uses the handwritten Gospel, one of the oldest in our region.

Another small wooden church in Svaliava district is in Uklyn village. The history of this miniature church of St. Peter and Paul standing on the hillside in the center of the village is rather interesting. It can be called an original museum exhibit. The church was built from logs taken from the old village church. At one time the village was located on the other bank of the river, but when in 1831 most of the villagers died from cholera, those who remained alive left the village and settled on the opposite bank. Only the oldest church was taken from the old settlement in the18th century. When the inhabitants decided to build a new stone church, the material from the old wooden one wasn’t destroyed. It was used to build a new church smaller in size, but of the same shape. This mini-church is located in the center of the village on the hillside near the stone church.

In Guklyve village of the Volovetskyi district, it has been preserved Holy Ghost Church built in the early 18th century. There are also more interesting sightworthy religious constructions in the Volovetskyi district, although their uncontrolled restoration has led to the loss of their original form (Abranka (1804), Bilasovytsia (the late 19th century), Zadilske (the early 20th century), Kotelnytsia (the late 19th century), Tyshovo (1898), Yalove (the late 19th century) (Pop ,2009). The largest wooden churches have been preserved in the Mizhhirskyi region. The first can be found along the way from Volovets to Mizhhiria. It is the church in Podobovets village built in 1785. There is also a bell tower nearby constructed in the same year. However, it is debatable now what is left in the church from that distant time, since it has been restored entirely using modern building materials. The church of Christ in the neighboring Pylypets village has better luck. The church was built in the 18th century under the influence of the Baroque style and has completely preserved its original exterior. The church is twin-log, triple, the nave and antechurch are covered with the saddle roof with the adjacent lower roof of the eastern log construction from the eastern side.

There is also a tall wide bell tower with a Baroque top rising above the antechurch. The church interior is extraordinary. This is especially true for the iconostasis. The icons in their spirit are close to folk-decorative art. In the neighboring village of Izky, the church of St. Nicholas has survived since 1798 together with the extraordinary bell tower next to it. Its today's exterior is the result of the reconstruction made in the 19th century. But the church in Izky village became famous not only for its masterpiece elegance; it is renowned, first of all, for the icon of Virgin Mary with prophets in the marginal scenes painted by the local artist at the turn of the 16th-17th centuries. This is one of the best icons in our region which has been perfectly preserved to this day. It is no coincidence that it has also become known as the “Carpathian Madonna”.

Another original wooden church can be seen in Repynne village – the church of St. Demetrius built in 1780. Most regrettably, rude restoration has turned a sophisticated masterpiece of wooden church architecture into a rather clumsy structure in which only the gallery over the first tier is left from the original structure. In the church interior it has been preserved the icons of the 17th century as well as the magnificent diversified iconostasis of the 18th century. In Nyzhniy Studennyi in 1820, as researchers claim, it was built the church named after the Annunciation of Blessed Virgin Mary (although there is a small plate nailed to one of the walls with the date “1841”; however, nobody knows for sure what this figure means). The church stands only as a monument, it is not functional.

From the hill where the church is situated in Nyzhnyi Studennyi, on a sunny day you can see in the neighboring village - Verkhnyi Studennyi, - the Church of St. Nicholas built in 1804. This construction is an example of the most developed Boyko church type.

Our trip to the Mizhhirskyi district is finished in Kolochava village stretching along the river Terebli for nearly fifty kilometers. There three villages named in the same way - Kolochava-Nehrovets, Kolochava-Horb and Kolochava-Lazy. The village of Kolochava is known not only in our region but also in the Czech Republic thanks to the writer Ivan Allbraht who in the early 30s began collecting material for the book about Mykola Shuhai "the last Carpathian opryshko" in the Kolochava area. In the Kolochava-Nehrovets district, we can see the church which was built in the 18th century named after St. Michael and the bell tower constructed in 1887.

In the other Kolochava - in Kolochava-Horb on the hill near the central street of the village surrounded by mighty age-old trees the Church of the Holy Spirit built in 1795 is located. There is also more churches in the Mizhhirskyi district, but they are all at a certain distance from the central road and there is no point in including them into the tourist itinerary at present. These are the churches in the following villages: Bukovets (1808), Rekity (the 17th century), Roztoka (the 18th century), Synevyrska Poliana (1817), Torun (1808), Potik (1936). In Kolodne village there is one of the oldest churches in our region - the church of St. Nicholas built in 1470. In the late twentieth century, the church greatly decayed, the shingle cover rotted through, the roofs leaked, and water washed away beautifully restored wall paintings.

Help came from the US Embassy in Ukraine. At the end of 2007, restoration works began. In 2008, the roof was replaced, the arcade on the bell tower was protected from birds with a net, the door was repaired, and all the holes and cracks in the logs were stuffed with wooden stakes. Now, the church again looks like a new one.

From Kolodne driving along the highway Mukachevo-Rakhovo, we turn to Solotvyn and go to Apsha village (formerly Dibrova) where the Romanian community densely lives. There are also three villages with a similar name - Lower, Middle and Upper. In each of them there is a wooden church. In Lower Apsha there are even two constructions - the church of St. Nicholas built in the 18th century in the Gothic style on the site of the old church as indicated by the footing that remained of it – the log constructions of the wall and floor structures over the antechurch date back to 1561, and the church of St. Vasyl erected in 1776. In the other part of Lower Apsha, there is a church built in 1776. In the Middle Apsha, on the low hill there are two wooden constructions with a high, exceptional tower. These churches are named after the same saint - Nicholas. Researchers refer to them as Nicholas the Upper and Nicholas the Lower.

The church of Nicholas the Lower was erected in the late 17th century. It consists of two log constructions, a large rectangular and an altar one which is smaller in size. Both log constructions are covered with a single high steep saddle roof and a stringcourse. Another feature of this church is the entrance door which is located in the southern wall. On the log construction you can still read the following words: "In the holy year of God 1669 this church was erected" (Pop, 2009). The church of St. Nicholas the Upper has many common features with the neighboring construction (Lower), but there are also a lot of differences. Some researchers believe that on the site of today's church in 1420 there was a wooden one which was rebuilt approximately in 1600, and the way it looks today is the result of its regular rebuilding in 1760. These two churches have retained many features of the defensive architecture style of the 13-14th centuries. They do not have any decorations on the log constructions and jambs. The windows are small, like loopholes. All these features make the church look formidable. Leaving the Tiachiv district we go to the Hutsul region. Three wooden churches have been preserved in the Rakhiv district - in Trybushany, which is 15 km westwards from the regional center of Rakhiv, and the well-known Hutsul churches in Yasynia and Lazeshchyna, 50 km eastwards from Rakhiv. In Trybushany the Church of the Assumption erected in 1750 has survived. It is located a bit away from the noisy highway on the shore of the White stream. We leave Trybushany and head off to the heart of Hutsulshchyna - Yasynia. The unique Hutsul church of the Ascension of Christ (Strukivska) has survived in the village.

Strukivska church stands alongside the noisy central street on one of the mountain ridges which sharply plunges near the Tisa. The present church dates back to the end of the 18th century. It was radically rebuilt in 1824. In the church, there is a good proportion of the central dome and four wooden additions to the building with saddle roofs. Close to the church there is a bell tower built in 1813 in the form of two tiers: the octagon on the quadrangular frame.

The church and the bell tower create a beautiful complex. Another church in the Hutsul region is located in Lazeshchyna village, in "Plytovatyi", a few kilometers away from Yasynia. In the village of Lazeshchyna in the late 18th century the church of the same type was built. Let's have a look at the Khust gothic in Saldobosh village. There was a wooden church of the Nativity of the Blessed Virgin, a masterpiece of wooden architecture of the 16th-18th centuries which was greatly damaged by the fire that took place in 1994. Its burnt ruins had been windswept for fifteen years. An initiative group of the Greek-Catholic community created in 2009 started to save and preserve the ancient church. Despite the fact that not all works have been completed, the main thing is done - the wooden masterpiece will be preserved for the descendants!

From Saldobosh we go to Khust but in 4 km we turn right to Sokyrnytsia village where one of the five Gothic style churches is preserved. Located on a barely noticeable hill on the shore of the stream, there is Mykolaivska Church in Sokyhnytsia built in 1709, as it is evidenced by the date on the log construction. The construction is a bit dumpy, so its shape seems heavy; the roof is rather wide and therefore not so raised up. What catches the eye on the facade is the windows sharpened at the top presumably influenced by the Gothic drop arch. Near the church there is also a bell tower the forms of which are taken from the Boyko style. In Krainikovo village surrounded by mighty age-old trees it is located St. Michael's Church built in 1668. Huge oak logs of log constructions, a small porch near the antechurch make the buildings look formidable. The building is less extendable along the longitudinal axis than other structures of the same type. Now the church has been restored, it is no longer left unattended. A kilometer away from Krainikovo, Danylovo village lies where over the roofs of houses the sharp spire of the wooden church can be seen. This is Mykolaivska Church built in 1779.

A special impression is made by this building from the northeast. At first, it hides behind the hill, but when you get a little higher, you will see how in surrounding silence the tall spire of the tower is embedded into the sky. This sharp contrast between the peace of nature and the geometric accuracy of the church does not disintegrate the town landscape, but only emphasizes the integrity and unity of the picture opened up to us. Going down the hill and round it, we get to Shandrovo village. In its center, a little away from the noisy main street there are a wooden church located on a low, smooth hill, and the wooden bell tower is next to it. Paraskeva church built in the 11th century is of a completely different type than Danyliv church is. Here the artist created a beautiful building, in which the harmony and balance between horizontal volumes with the verticality of the tower is successfully found. Therefore, this structure, together with its surrounding hills, creates a harmonious picture.

Unlike the church in Krainikovo, somewhat gloomy with its closed porch and windows similar to the loopholes, the artist creating Paraskeva church in Shandrov made the open porches, on high carved pillars forming small arches. The church interior, the antechurch, the nave and the altar part are covered with the paintings made in 1799 by "Stefan, the Tereblskyi Painter".

The altar part of the nave is separated with the iconostasis which is unique in composition. It is quadri-tiered. This separation visually increases the height of the nave. Finally, it should be said that there is a group of wooden churches in the Irshavskyi district but because they are in remote villages, getting to them is not an easy matter. In summary, we may say that Transcarpathia is an extremely rich region not only in its natural resources. It also has extremely valuable historical and cultural resources, including the architectural heritage of religious significance which can be successfully used for the development of religious tourism in the region.

Conclusions.

Thus, from the above-mentioned, we may conclude that Transcarpathia is an extremely rich region in religious tourism attractions. However, we paid special attention specifically to the architectural heritage of Christianity in the Transcarpathian region. It should be noted that wooden churches in the region are an integral part of Transcarpathia`s culture, history and architecture. It is the religious architectural heritage of the Ukrainian people that can serve as a basis for the development of religious tourism. There are many wooden church architecture monuments of past epochs, although a large number of them has been lost as the years passed and due to historical circumstances connected with Transcarpathia`s entry into various state formations.Poetic nature has contributed to the fact that pagan traditions were kept here for the longest time. They exerted a certain influence not only on the folklore, life, customs but also on arts and crafts. The difficulties in communication, its weak development in the mountains, the scattering of small settlements facilitated the cultivation of local features in art and in wooden construction. The richness and variety of works of art in the Carpathians have turned these mountains into a preserved land and a huge open-air folk art museum.

References.

Belousov, V.I., Baleha, Yu.I. & Balla, L.K. (Eds.). (1969). *History of the cities and villages of the Ukrainian SSR. Transcarpathian region*. (Vols. 1-26). Kyiv [in Ukranian].

Hrabar, I. (1911). *Wooden church architecture of Carpathian Rus.* Moscow [in Ukranian].

Mahochii, P. R. (Ed.).(2017). *Encyclopedia of the History and Culture of the Carpathian Rusyns*. Uzhhorod: Podiaka Press [in Ukranian].

Nedzelskyi, Ye. (1942). *Autobiography*. Manuscript kept in Uzhhorod [in Ukranian].

Ofitsynskyi, R. (Ed.).(2017). *Excursions to Uzhhorod: a study guide on organization and realization of historical excursions*. Uzhhorod: TOV "RIK - U" [in Ukranian].

Pop I. (2005). *Podkarpatská Rus*. Praha: Nakladatelství Libri

Pop, D. (2005). *History of Subcarpathian Rus*. Uzhhorod [in Ukranian].

Pop, D. (2009). *Church architecture of Subcarpathian Rus*. Uzhhorod [in Russian].

Sichynskyi, V. (1927). *Boyko type of wooden churches in the Carpathian*. Lviv [in Ukranian].

Transcarpathian Tourist Information Portal. (2018). Retrieved from: http://www.karpataljaturizmus.info [in Ukranian].

Vavroušek, B. (1929). *Církevní památky na Podkarpatské Rusi*. Praha.

Halyna Mamus
Candidate of Pedagogical Sciences, Associate Professor,
Ternopil Volodymyr Hnatiuk National Pedagogical University
Halyna Havryshchak
Candidate of Pedagogical Sciences, Associate Professor,
Ternopil Volodymyr Hnatiuk National Pedagogical University
Maria Markovych
Candidate of Art Studies, Associate Professor,
Ternopil Volodymyr Hnatiuk National Pedagogical University,
Ternopil, Ukraine

FORMING OF AESTHETIC PERCEPTION IN THE FUTURE SERVICE SECTOR SPECIALISTS DURING THEIR PROFESSIONAL TRAINING

Abstract. *The own interpretation of the concept of "aesthetic perception of the teacher of practical training in the field of service" is formed. The following main stages of formation of aesthetic perception in the process of training of future teachers of practical training in the service sector are determined. Theoretical bases of formation of the aesthetic perception in the system of professional training of future specialists in the sphere of service is also revealed. The pedagogical conditions for the formation of aesthetic perception of future professionals in the service sector are substantiated. In order to improve the level of formation of aesthetic perception of future service professionals examples of tasks are developed; it correspond to the stages of formation of aesthetic perception and pedagogical conditions presented in thesis. The possibilities of using the problem in the process of studying the topic of art design and manufacture of products are described and the corresponding examples are given. The peculiarities of the study of certain disciplines are analyzed; the content of laboratory works, which provide formation of aesthetic perception of future specialists in the sphere of services, is disclosed.*

JEL Classifacation: I21

Introduction.

The reform of educational system in Ukraine puts before the future specialist not only modern requirements for the acquisition of the necessary competencies for successful professional activity, but also their ability to design and implement own ideas for self-realization in creative activity; to activate the need for self-knowledge and independent action. The most important factor in the process of preparation of bachelors for professional activities in the service sector is the formation of aesthetic needs, tastes, creativity and the artistic direction, as well as solving problems of aesthetic culture. These aspects largely depends on the level of aesthetic development of the personality and testifies to her ability to perceive, to feel, to experience and to admire the reality. The aspects of creativity, artistic and aesthetic development and culture of young people were studied by philosophers, psychologists, domestic and foreign scientists, methodists and teachers-practitioners. The decision of the problem of aesthetic perception in other fields of activity is done by such experts: Nakonechna, O. grounded the interpretation of aesthetic perception, Pushonkova, O. revealed the dynamics of forms of the aesthetic perception, Mikhova, T. suggested the productive ways of formation of the aesthetic perception, Kaidanovska, O. investigated the emotional aspect of aesthetic perception and so on (Mamus, & Havrylko, 2018).

Therefore, the positive results are achieved, but these studies do not exhaust the main issues of formation of aesthetic perception in the process of the professional training of future specialists in the service sector, because the definition of the concept of aesthetic perception, the conditions of its formation in the training of future teachers of practical training is not specified. So, the well-known methods, the techniques and the means for its development are needed to be improved.

These ideas caused the choice of the research topic. The purpose of the research: to develop and to ground the pedagogical conditions for the formation of the aesthetic perception of future service professionals in the training process. The object of the research is the professional training of future teachers during their practical training in the field of service in the higher educational school.

1. Theoretical bases of formation of the aesthetic perception in the system of professional training of future specialists in the sphere of service

In order to perform the theoretical tasks of the study to determine the essence of the concepts of "perception", "aesthetic perception" the state of the problem in the philosophical, psychological, pedagogical and art literature was analyzed. We hold the conclusion that perception is a process of reception and processing of various information coming to the brain through the senses, and which ends with the formation of the image first in thinking, in consciousness, and then its expression in the material. Despite this, the following main stages of formation of aesthetic perception in the process of training of future teachers of practical training in the service sector are determined in such ways: the installation on a holistic aesthetic development of the object; the contemplation and perception of products of design and technological activities, arts and crafts, design;their analysis and understanding; the aesthetic evaluation of the content of the object and its interpretation.

As a result of the analysis of psychological and pedagogical researches, we agree with the conclusion that the aesthetic perception is a synthesis of the intellectual, and emotional-positive qualities of the personality. It allows to develop the aesthetic needs, tastes, spatial thinking, imagination, actualize the ability of the artistic direction necessary for the future teacher, whose activities are not only applied, but also artistic direction.

According to the mentioned above, we formulate our own interpretation of the concept of "aesthetic perception of the teacher of practical training in the field of service" as a process of the spiritual and practical activity, in which the results of sensory understanding of the figurative and symbolic content of the object are realized, perceived and improved on the basis of impressions and experiences, practical skills and artistic direction.

The training of teachers due to the specialty "Professional education (Service Sector)" is carried out in Ternopil Volodymyr Hnatiuk National Pedagogical University.

Generalization and specification of the problems is formed on the basis of the analysis of literary sources. It testifies that aesthetic perception of bachelors of professional education, in particular in the course of preparation for activity in the sphere of services, is a subject of attention and demands further research.

Educational and professional bachelor's program contains disciplines with aesthetic component. Let take for example some of them:"Ethics and aesthetics", "Design of service facilities", "Design of restaurant facilities", "Design of hotel facilities", "Design and manufacture of furniture for restaurants and hotels", "Design and manufacture of textile products", etc. It is obviously that it is necessary to improve the ability of the aesthetic direction of future service professionals. So, you mustn't forget about these aspects in the process of familiarization with the basics of the organization of activities of enterprises in the service sector; mastering the basics of food technology, the study of national and ethnic cuisines, PR-technologies in the hotel and restaurant business.

The graduate should be ready to work as a teacher of practical training in vocational schools or to solve typical professional tasks for the organization and implementation of hotel and restaurant services in the enterprises.

The result of professional education of future specialists of hotel and restaurant business depends on the success of mastering the normative and selective disciplines of general and vocational training, which are provided in the curriculum. There are significant opportunities to enhance the cognitive activity of students in the process of acquiring the above-mentioned competencies. It is directly related to the aesthetic development of the personality, the formation of the abilities of the artistic direction, creative approach to solving problems in the service sector. Therefore, it is important to aesthetic perception, which accordingly affects the development and education of aesthetic feelings, tastes, abilities of the personality.

Aesthetic qualities of the person are associated with thinking and they can be caused by a certain idea, thought, theoretical knowledge and practical actions in this field.

For example, let analyze the features of the study of design of hotel and restaurant facilities.

During their professional training bachelors explore the modern computer-aided design techniques of hotel and restaurant facilities in accordance with its socio-cultural, utilitarian and aesthetic functions. They master: main directions in the organization of design, construction and reconstruction of the enterprises of service sector; bases of design and an interior of the enterprises of hotel and restaurant business.

Students acquire the skills of aesthetic understanding and perception of surrounding objects. As a result, the aesthetic knowledge is improved and their creative thinking is also formed. The studying of artistic styles and the formation of competitive corporate design is especially important for the design of the restaurant and hotel business.

It is advisable to analyze the relationship of style and fashion trends, its impact on the aesthetic characteristics of hotel and restaurant facilities. In this case there are several important aspects: the artistic and emotional sense of harmony; systematic vision of the transformation of the external features of individual objects or its complex;the organization of its colors and shapes, rhythms and proportional relations, decoration etc.

It should be noted that current educational trends require new approaches to teaching disciplines. The focus on mobility of students requires the introduction and improvement of distance learning. Distance learning at Ternopil Volodymyr Hnatiuk National University is carried out using the Moodle environment. Using Moodle students can learn topics, questions and tasks of the discipline; read the theoretical information on each topic; get the task for laboratory-practical and individual work; do the tasks and if necessary directly follow the website links to certain standards, companies of the service area or other necessary resource. Distance learning helps to acquire knowledge being mobile and provides more opportunities for students to work individually.

Therefore it is very important to review the theoretical foundations for improving the training of specialists in the service sector. Also it is need to supply the acquisition of experience and professional skills of practical and pedagogical aesthetic activities using modern individual approaches and teaching methods for the successful development of hotel and restaurant business.

2. Pedagogical conditions of formation of the aesthetic perception of future teachers practical training

Methodical bases of teaching activity during formation the aesthetic perception of future teachers of practical training in the field of service in the process of studying normative and selective disciplines provide the definition of pedagogical conditions for the purpose of forming students' aesthetic perception.

The establishment of pedagogical conditions in this study is due not only to the improvement of the content of professional training of the future bachelor; but also the need to resolve the contradictions that have been identified as a result of the theoretical analysis of the problem (are established in the previous paragraph of the study) and the investigation the features of future teachers' training in pedagogical universities.

We consider that the structure of the formation of aesthetic perception of future service professionals includes the following components: activation of development of motives, needs, interests, positive attitude of future service professionals to the professional activity according aesthetic direction; ensuring the competence of students in design and technological activities to create products from various materials in the field of arts, crafts and design; development of creative imagination and fantasy, understanding and rethinking the product of aesthetic and artistic creativity; activation of various forms of creative activity for further professional labor with future service workers.

As a result of the analysis of the curriculum for the preparation of bachelors due to the specialty 015 Vocational education (Service Sector) some disciplines are identified. The studying is associated with the aesthetic direction and the opportunities for their improvement are also identified. Taking into account the analysis of methodical literature, the study of professional training experience, we try to substantiate the following pedagogical conditions for the formation of aesthetic perception of future professionals in the service sector:

1. The appropriate selection of aesthetically attractive samples, models of products.

Consciousness, perception, understanding of the student and his artistic and imaginative thinking, imagination and fantasy; the desire to comprehend the basics of art, architecture. Accordingly, the observance of this condition contributes to the improvement of spiritual and practical activity of the future teacher of practical training, directs to self-knowledge, self-realization and activity of their cognitive activity.

2. Preparation of educational and cognitive theoretical and practical tasks; it will include the formation of aesthetic perception, improvement of professional knowledge and skills according aesthetic direction.

3. Activation of creative independent work using an individual approach to future teachers in order to develop their personal qualities.

In order to improve the level of formation of aesthetic perception of future service professionals examples of tasks are developed; it correspond to the stages and pedagogical conditions presented in our thesis.

The tasks of the first stage are prepared to provide a motivational component and are aimed to develop the interest, emotional impressions. These feelings arise in students in the process of acquaintance, inspection of products of decorative and applied art, design and technological activities; decoration of objects of the service sector; the activation of aesthetic experiences and the formation of a positive attitude to the tasks of the artistic type.

Such tasks include:

- view the presentations (for example, about the types of finishes made of textile materials, accessories and methods of their processing; decoration of restaurant products; information about the style of modern furniture, interiors); the samples of products of different range (for example, textile materials: panels, decorative pillowcases, bedspreads, napkins, towels, tablecloths, sets of kitchen sets with different finishing techniques, etc.);

- observation and encouragement to stimulate interest (conversations, illustrations, oral creative tasks concerning the premises, products, accessories of different styles, their purpose and decoration).

At the second stage, it is advisable to implement the cognitive component through the development and accumulation of knowledge, skills and artistic direction.

The main methods inherent in this stage are explanations, demonstrations, conversations, educational discussions, it help to study and to assimilate of theoretical stuff during practical training. So, for example:

- analysis, generalization, comparison of designs and decoration of products;

- familiarization with the dictionary of terms and definitions of parts, products, processing and finishing operations;

- oral creative tasks aimed at learning the basics of composition and the basic elements of the composition (silhouette, lines, proportionality, rhythm, material, finish, color);

- for self-control of knowledge on the topics of art direction in the process of design, processing.

The third stage is aimed to provide a sensory component through the development of the need to emotionally perceiving the artistic objects, also to understand and to evaluate the artistic image.

In order to realize this stage the analysis of perception of aesthetic qualities of a certain image, object is recommended for discussions and to solve creative tasks.

The visual methods are recommended. According to the source of transmission and perception of educational information we can distinguish, for example, an illustration. It is an additional method in the verbal method of learning. Its importance lies in a more vivid presentation and display of one's own thoughts: illustration tools (multimedia presentations, images, photos, models, drawings, patterns, samples and models of hotel and restaurant objects, products) must correspond to a high aesthetic level, should "come to life" in the story of the teacher and contribute to the formation of aesthetic perception among students.

In order to improve the aesthetic training of future service professionals, it is advisable to intensify their cognitive activity. Taking into account the aesthetic inclinations, inclinations, abilities and individual learning opportunities of students, it is advisable to introduce problem-based learning.

The study of professional disciplines of aesthetic direction promotes and educates future teachers of practical training for the feeling of beauty; positively affects the formation of their artistic outlook, therefore, it is advisable to develop a number of laboratory works that would provide the appropriate competencies.

For example, in the lessons of the discipline "Designing and manufacturing of products made of textile materials", a laboratory work on the theme " Designing and manufacturing of decorations" was proposed. The purpose of this work is to learn how to analyze, classify, and select different types of decoration of textile products in accordance with the specifics of the usage.

The content of the tasks provides an analysis of compositional elements that affect the appearance of interior products. In the process of work, the students characterize the selected types of decoration according to the place of their placement and design of the products, the main materials for the manufacture. They approve the choice of selected accessories decoration for the modern style.

Students offer ideas of decoration of a certain assortment; analyze how this usage influences the aesthetic perception of interior products. We believe that in addition to performing the main part of laboratory work, it is advisable to propose solutions to teaching and research tasks. For example, future lecturers in practical training in the service area should approve how different colors and materials structure of the same product affect their perception.

It is recommended to introduce laboratory work on the perception of color combinations in the product; the dependence of the shape and volume of products on the optical properties of the main materials for their manufacture; the influence of lines on the perception of the proportions of the product; projecting of products of various designs; peculiarities of elements combinations and interactions in the educational process of study of discipline "Designing and manufacturing of products made of textile materials".

In order to acquire professional aesthetic competence in the process of studying of normative and selective disciplines it is expedient to introduce test tasks of various complexity levels, which include the theoretical basis of composition, design, etc. for students' individual knowledge check (Koval et al., 2018). In addition to the above mentioned, it is recommended to implement the tasks for the promotion of professional preparation of aesthetic orientation of bachelor's besides their internship at the hotel and restaurant business enterprises. We believe that the proposed methodological aspect of forming the aesthetic perception of future specialists in the sphere of service is not only interesting but also necessary for further professional activity contributing to aesthetic-artistic perfection, development of imagination, vision and creative abilities of students.

The teacher stimulates creativity and independence of students, increases their interest in professional disciplines of aesthetic direction by means of introducing various forms of training, selecting pedagogical techniques, methods and means of teaching. The teacher encourages the student to think and solve a certain problem. There for he is forced to actively acquire or adapt new knowledge, based on his or someone else's experience, logic; to use the latest information technology. Thus, the future specialist receives new knowledge not through the usual known laws, wording, examples, but as a result of their own active cognitive activity.

It is advisable to introduce changes in the conduct of classes in order to improve the training of future specialists in the service sector. You shouldn’t abandon the traditional methods and methods of activity. You need to organize the process of training and control to develop the mental qualities of the student as well as to promote the development of his cognitive activity, abilities of artistic direction, aesthetic perception and the desire for independent, creative activity.

Conclusions.

During the research the state of the problem in the philosophical, psychological, pedagogical and art literature was analyzed. It is testified that aesthetic perception of bachelors of professional education, in the course of preparation for activity in the sphere of services in particular, is a subject of attention and demands further research. Our own interpretation of the concept of "aesthetic perception of the teacher of practical training in the field of service" as a process of the spiritual and practical activity, in which the results of sensory understanding of the figurative and symbolic content of the object are realized, perceived and improved on the basis of impressions and experiences, practical skills and artistic direction is formed.

The following main stages of formation of aesthetic perception in the process of training of future teachers of practical training in the service sector are determined.

The structure of the formation of aesthetic perception of future service professionals includes the following components: activation of development of motives, needs, interests, positive attitude of future service professionals to the professional activity according aesthetic direction; ensuring the competence of students in design and technological activities to create products from various materials in the field of arts, crafts and design; development of creative imagination and fantasy, understanding and rethinking the product of aesthetic and artistic creativity; activation of various forms of creative activity for further professional labor with future service workers. As a result of the analysis of the curriculum for the preparation of bachelors due to the specialty 015 Vocational education (Service Sector) some disciplines are identified. The studying is associated with the aesthetic direction and the opportunities for their improvement are also identified.

We substantiated the following pedagogical conditions for the formation of aesthetic perception of future professionals in the service sector: the appropriate selection of aesthetically attractive samples, models of products; preparation of educational and cognitive theoretical and practical tasks; it will include the formation of aesthetic perception, improvement of professional knowledge and skills according aesthetic direction; activation of creative independent work using an individual approach to future teachers in order to develop their personal qualities.

In order to improve the level of formation of aesthetic perception of future service professionals examples of tasks are developed; it correspond to the stages of formation of aesthetic perception and pedagogical conditions presented in our thesis.

The possibilities of using the problem in the process of studying the topic of art design and manufacture of products are described and the corresponding examples are given. As an example the peculiarities of the study of certain disciplines are analyzed; the content of laboratory works, which provide formation of aesthetic perception of future specialists in the sphere of services, is disclosed.

Reference.

Havryshchak, H. R., & Sopiha, V. B. (2018). Content-methodical aspects of distance learning of students of the organization of the activity of service sphere enterprises. In V. Titarenko & A. Tsyna, (Eds.), *Actual Problems of Technological, Professional Education, Culturology and Design* (pp. 255-258). Poltava: PNPU.

Koval V., Polyezhaev Y., Bezkhlibna A. (2018). Communicative competences in enhancing of regional competitiveness in the labour market. Baltic Journal of Economic Studies, Vol. 4, № 5, pp. 105-113.http://dx.doi.org/10.30525/2256-0742/2018-4-5-105-113

Mamus, H., & Havrylko, I. (2018). Forming of aesthetic perception in future service sector specialists during Professional Training. In V. Tytarenko & A. Tsyna, (Eds.), *Actual problems of technological, professional education, culturology and design (*340-345). Poltava.

Galyna Volokhova
PhD candidate of Enterprise Strategy Department,
Vadym Hetman National Economic University of Kyiv,
Kyiv,Ukraine
Anastasiia Volokhova
MBA, Athens University of Economics and Business,
Neuromarketing Specialist,
Doha-Qatar

CORPORATE IDENTITY OF BLOCKCHAIN-BASED COMPANIES

Abstract. *Over the last decade blockchain technology has swiftly attracted attention of academic community and practitioners alike. Despite the vast number of publications on the topic, this peer-to-peer network is in the infancy stage of its development and current research base still lacks systematized approach toward the potential of blockchain technology to disrupt not only traditional financial sector, but other areas of economic and social activities. The present study analyses peculiarities of potential implementation of blockchain technology in corporate identity. It gives a brief explanation of blockchain as such, focuses on how it could address existing drawbacks in corporate functioning and recommends, which strategies should companies use for its successful execution. It then attempts to define the notion of corporate identity, explains its main characteristics. Finally, it proposes several ways of how blockchain technology may be successfully used in the core of corporate identity. We suggest that the blockchain proves to be effective primarily where this technology is rooted into corporate identity on strategic level, rather than solely applied to certain part of its operations.*

JEL Classification: D90

Introduction.

Over the past decade blockchain technology has utterly captured attention of business and academic societies. World Economic Forum in Davos has recently acknowledged blockchain among the top 10 emerging technologies in the world (WEF, 2015).

Still being in the infancy stage of its development, blockchain technology has only recently attracted complete attention of academic community, and despite the vast number of publications on the topic, research still lacks systematized approach toward the potential of blockchain technology to disrupt not only traditional financial sector, but other areas of economic and social activities.

Despite the fact that the principles of the blockchain technology is based on the actions of individuals who act as independent market actors and cannot be regulated by financial sector institutions or government authorities, companies acting as market actors and using blockchain technology in their operations can be characterized as separate entities, and, therefore, by definition, they will have their own corporate identity.

The present paper is a desk research that applies qualitative research methods to review and analyse existing literature on the subject in order to drive necessary conclusions and form relevant recommendations. With this aim we have used secondary data coming from academic journals, surveys, statistical data, industry reports, newspapers etc.

1. Blockchain technology

Issues of blockchain technology and its impact on various economic sectors have swiftly attracted attention of scholars during the last 4-5 years only. But certainly, the very first paper dates back to 2008, written by the creator of bitcoin cryptocurrency Satoshi Nakamoto, who in his white paper "Bitcoin: A Peer-To-Peer Electronic Cash System" introduced blockchain technology behind bitcoin as a way to overcome the issue of double-spending for this cryptocurrency.

Blockchain is commonly described as a peer-to-peer model where many geographically dispersed participants replicate or issue cryptographically signed transactions. It is used on the concept of distributed ledger and is composed of a distributed network of computers called nodes, where every node in a blockchain network executes and records the same transactions, grouped into blocks. Every new block follows in mathematically verified sequence from the previous block and blocks can be added one at a time only. With the flow of time the recorded data become more secure as more "blocks" of data are cryptographically linked and added to the "chain" (Ertemel, 2018, p. 36). The ledger keeps a transparent record of all the transactions that have been made on the network while keeping private identities anonymous through cryptographic protocol, under which transactions are secured via encrypted messages, called hash.

In order to avoid the risk of double-spending the coin, blockchain broadcasts transactions publicly to the network and certifies their validity through keeping a chronological record of all transactions. The authenticated transactions arriving around the same time on the network are then combined in blocks, where each block contains the hash identifier of the previous block, which provides a single public source of truth based on the longest chain in the network as in order to "…modify a past block, an attacker would have to redo the proof-of-work of the block and all blocks after it and then catch up with and surpass the work of the honest nodes" (Nakamoto, 2008, p.3).

Moreover, digital nature of blockchain transactions basically means that they can be programmed and thus follow certain algorithm and trigger automatic actions. This logic has been used to create smart contracts - digital agreements that are programmed directly on the blockchain and are executed automatically as soon as all the predetermined terms and conditions are met.

To sum up, we can derive that blockchain technology is based on the following essential principles: distributed database, peer-to-peer transmission, transparency of transactions, anonymity of participants, irreversibility of records, and computational logic. In its turn, these characteristics gain blockchain technology the advantages of: privacy, reliability, trustworthiness, immutability, and programmability.

Depending on the different type of permissions, granted to network participants, blockchain is divided into permissioned or permissionless, and public or private. Essentially, the difference is in who can read or write the transaction and commit to it.

In public network anybody can access the ledger and see the transaction, while in private one the access will be either available to authorized participants or a limited set of nodes only, or be completely private. Similarly, in permissionless blockchain anyone can generate transactions and update the state of the ledge, while in permissioned blockchain only authorized participants and network operators can commit such activity (Carson, et al., 2018) (Fig. 1).

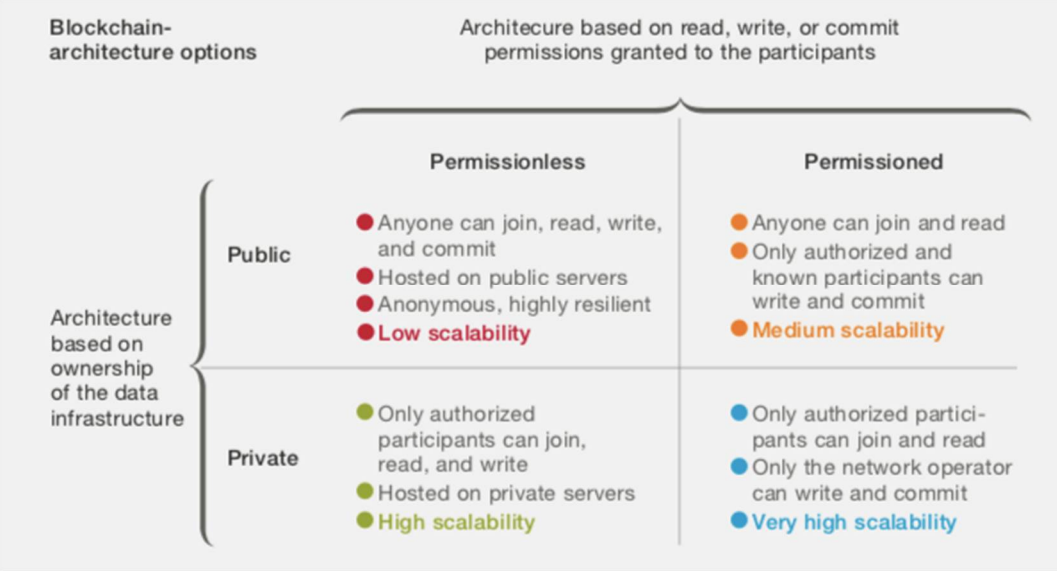


Fig. 1. Blockchain architecture options

Source: McKinsey & Company, 2018

As we can see, such distributed ledger technology is commonly considered as more secure, transparent and cost-effective system comparing to the traditional one, and there is no wonder why large investments are being made into blockchain. Venture-capital funding for blockchain-based start-ups has exceeded $600 million only in the first half of 2018, while initial coin offering (ICO), the blockchain-specific investment model of sale of cryptocurrency tokens, has flied to $5 billion. Exhibit 2 shows the dynamic of venture capital investments into blockchain start-ups by the top 50 venture capital firms for the period 2011 – 2018 (through mid. June) (Crypto Fund Research, 2018).

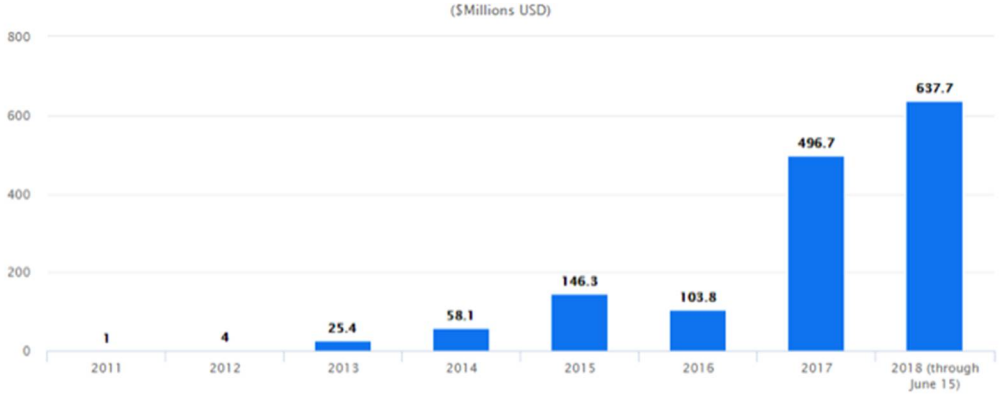


Fig. 2. Top 50 VC's Total Blockchain Investments by Year

Source: Crypto Fund Research

Despite all the positive opportunities blockchain technology offers, it still represents a rather tough challenge for managers as they have to deal with an innovatively yet relatively untested technology that is overhyped and underestimated at the same time. They are often uncertain as to which areas of business to apply it to and what would be the best timing for its implementation, if they decide to implemented at all. Under such volatile market conditions, where some companies have already fully adopted the new approach, some struggle in uncertainty while others actively resist novelties, those businesses that have enough mobility to transform swiftly and adopt innovations are most likely to gain competitive advantage (Koval, 2017). Yet it is crucially important not to follow every single invention that great minds create and promote. There will always be the fear of being late and losing the edge, but adopting innovations blindly just because everyone else does will do no good to business.

According to Carson et al., 2018 company's optimal strategic approach to blockchain is defined by the two independent market factors: market dominance and level of standardization and regulatory barriers. Those companies that have high market dominance in low standardized market should play the role of a market leader. Such companies should work rapidly in order to establish industry standards and focus on cases with the highest network effect and potential value. Companies with low dominance and low regulatory barriers should focus on disruptive peer-to-peer cases, while those with high dominance and high standardization - on shared high-impact cases and alliances. Finally, those operating in highly standardized markets but having no dominance over it should be ready to adopt emerging standards and focus on internal benefits (Carson, et al., 2018, p. 11).

We suggest that, first of all, managers should focus on the pain points of their company, identify how can blockchain disrupt or help it, analyze and measure actual losses from ineffective practices, triggered by outdated conventional technologies. Blockchain applications should be implemented primarily in the areas of business, where they have real potential to address those pain points, reduce costs, and eliminate other weaknesses the company might have. At the same time, more and more companies nowadays choose not only to use blockchain technology to address operational issues, but to develop their whole corporate identity on the basis of being technologically innovated and integrated, make blockchain their strongest branding asset.

2. The concept and characteristics of corporate identity

Information technology changes the innovative strategy of enterprises, expanding the horizons of opportunities in terms of new products, services, business models and internal processes. This change enhances the development of companies and accelerates the pace of innovation in the industry as such. The relevance of this topic is determined by the desire of companies to identify and establish their own competitive advantage in the market, which is ensured by their ability to create products that are endowed with more attractive qualities than competitors.

This necessitates the search for unique corporate elements that will be able to distinguish them among others and hence serve their personal identity.

At the same time, in addition to adapting to a faster pace of competition, innovative strategies must be engaged in rapidly expanding markets and their conditions (Cornelissen, 2002). For example, the competitive advantage is less dependent on products, and more on services provided by the digital capabilities that surround them. From the proposals of prognostic maintenance of industrial goods to the strategy of developing the Internet things is need to learn and master the innovation areas. Since more advanced technologies, such as artificial intelligence, are in the mainstream, competition continues to grow (Balmer, 2017).

The corporate identity of the company is most successful when it penetrates the culture. That is, for today corporate communications – a set of techniques designed to create a cultural relevance (Abratt & Mingione, 2017). Information technology not only has created powerful worlds of new social networks, but also abruptly changed the process of functioning of culture. Social communities now serve as very effective and fruitful cultural innovators – a phenomenon called "microculture" (Cornelissen, 2002).

Nowadays experts admit that corporate identity is achieved by the unique characteristics of an organization, which is related to the behavior of its members. Scientists have come to the conclusion that managing the identity organization is strategic and requires an interdisciplinary approach. They are able to reduce the number of managers who can reduce the effectiveness of an actual and useful corporate initiative by pushing a combination of corporate identities - communications, symbolism and behavior. Existing definitions influence the fact that corporate identities relate to attribute differences that are defined as the so-called "set of attributes". Some of these characteristics are "innate" to the company and they derive from the basic organizational values (Balmer, 2017).

According to scientific literature, there are differences in the views on the interpretation of the notion of corporate identity. Often, the link between corporate strategy and identity is considered in terms of dissonance between them, and hence the effects of such differences within the organization and in the macro environment. Both institutional and organizational factors cause dissonance within the company, especially at senior management level. Industry rules and regulations are key guiding principles for leadership, which often disagrees with corporate identity. This forces managers to the so-called "attribution","legalization" and "adjustment" of identity (Abratt & Mingione, 2017).

The most famous concept can be the theory of Albert and Whetten (1985), which characterized the corporate identity as the perception of the members of the company that represents this enterprise. He and Balmer (2007) compares corporate identity and strategy in terms of management, that is, it does not consider identity in terms of perception of stakeholders. In his opinion, it is the managers and management of the company act as agents of knowledge linking the strategy with the identity of the company.

The main work of Albert and Whetten (1985) served as a catalyst for the promotion of identity research in the direction of organizational behaviour. Just as Lippincott and Marguiles attribute the introduction of the concept of corporate identity in 1964 (Margulies, 1977), Albert and Whetten are among the founders of the concept of identity of organization.

In Albert and Whetten (1985), the identity of an organization is defined as a central, distinctive and stable organization characteristic. On the other hand, the introduction of the theory of social identity into organizational research by Ashforth and Mael (1989) provoked the tendency of identity research at the organizational level, which manifests itself in terms of "identity of organization" and "organizational identity" (Ashforth & Mael, 1989).

The concept of an identity of the organisation, in essence, is a metaphor that derives from identity literature. The generally accepted definition proposed by Albert and Whetten (1985) defines identity as the central, distinctive and consistent characteristic of an organization that answers the question "Who are we?". However, in the literature, the identity of the organization (in them the definite term "organizational identity", because they do not distinguish the identity of the organization (identity of the organization itself) from the organizational identity – (identity in the organization) refers to the perception of the organization of the definition of characteristics of their organization (Giogia et al., 2000; Koval, 2018). Whether this is a declared identity or is an internal perceived identity, the concept of an organization's identity refers to the identity of the organization itself, which is different from organizational identity and organizational identification.

Organizational identity is associated with the organizational and managerial process of cognition and organizational ideology. Thus, it can be considered as a special form of collective cognitive systems of members of the organization (Dukerich et al. 1998). Therefore, one of its central issues is the relationship between organizational identity and other organizational phenomena such as organizational image, decision-making and activity.

"Identity of people in an organization," which is commonly referred to as organizational identity, is a special form of social identity. Its key role is the social identification of the individual within the organizational context. Also in this context, "organization" refers to a working or employing organization, and as such, differs from other social categories to which an individual has affection or affinity (eg, ethical, gender, national, professional, professional identity, etc.) (Cornelissen, et al. 2007). Organizational identity in this sense can be defined as a set of characteristics with which an individual determines his or her affiliation to an organization in the given circumstances (for example, such an affiliation may be mediated by spatial or temporal boundaries). Therefore, organizational identity is socially constructed and situational in nature (Cornelissen, 2002).

Individuals also have a personal identity (in fact, I), as well as social identity (membership or role of a social category). The theory of social identity and the theory of self-categorization have largely formed the basis of the theoretical basis of organizational identity.

As Hogg and Terry (2001) point out, the organizational context provides an almost perfect space for the functioning of social identities (Hogg & Terry, 2000) The basic idea of the theory of social identity is that the social category (for example, nationality, political affiliation, organization, working group), within which the person functions and belongs to, gives a definition of who it is from the point of view of determining the characteristics of the category of self-determination, which is part of self-identification.

Thus, social identity partially answers the question "Who am I?". Consequently, it is worthwhile to argue that organizational identity is part of the process of social identity and thus provides a special support for understanding the personality.

3. Blockchain in corporate identity

“Who am I” question in the case of corporate identity often takes the shape of “what value do I bring for my customer”, and nowadays our life is such that more often than not this value creation will have to do with new informational technologies.

Conventional ways of using modern technologies, including blockchain, are applied to such traditional aspects of marketing and branding as communication channels, loyalty programs, big data management, the importance of brand authenticity and transparency, etc. [5] But modern customers have a quality new breed of issues they seek to resolve. They are no longer focused on merely satisfying their primary needs, not even the aesthetic needs for that matter. Now more than ever they strive for trust, safety and sustainability in their lifestyle. Responsive to such responsible changes in consumer mindset, companies are determined to deliver just that. Moreover, due to the fact that the ultimate purpose of this change is without any doubt very beneficial for the society and the power of social approval is strong, many companies try to build their whole corporate identity around issues of trust and sustainability.

While blockchain is widely used around multiple economic sectors, such as finance, healthcare, and public sector, the above notion is especially true for consumer goods and services, where apart from serving their primary purpose to feed, dress and entertain, they manage to elevate satisfaction of those human needs to the entirely new level: providing security and sense of purpose. Addressing the issues of security and trust [25] is one of the strongest leverages in favour of blockchain. For instance, smart contracts are self-executing and reduce the possibility of fraud or corruption. Blockchain also allows the creation of new forms of identity separate from a central issuing authority and help to address privacy issues.

The perspective of trust is embodied into the corporate identity of such companies as PayPal, where providing secure financial transactions is communicated to be the very purpose of company’s functioning. Recently the company invested in Cambridge Blockchain - a blockchain technology startup that focuses on empowering individuals to decentralize the storage of their online digital identities without requiring intermediaries, such as Facebook.

This technology is essentially giving users a new way of proving their identity without sharing privileged personal information (Emem, 2019).

Another sector, where security and trust plays a crucial role in modern society is so-called e-sport, or, in other words, online gaming industry. In 2017 the US consumers alone spent $36 billion on online games surpassing the previous year's record.

However, with such significant financing pouring into gaming and eSports, this industry faces a range of trust and security issues: top-tier video game accounts are often hacked, gamers are frequently being locked out from their valuable online assets, there are significant issues regarding the fair compensation of eSports athletes, gamers often straggle to get paid etc.

Addressing these issues, the plethora of blockchain-based gaming companies start to emerge. For example, Tron is a major foundational platform for game developers. It is said to be one of the world's most cutting-edge blockchain projects, which is being used around the world to create blockchain-based video games due to its potential for mass scalability. The company has created a $100 million fund with the sole purpose of financially stimulate certain games being developed via TRON (NewsBTC, 2019).

Furthermore, addressing consumers' need for responsible consumption and product safety, companies may choose to embody blockchain into their corporate identity for more effective storytelling and wholesome sustainable concept. Through a transparent history of product transactions and shared ledger where all transactions are visible, brands can reassure customers that products are safe and sourced legally and ethically. Moreover, they can emphasize that sustainability lays in the very core of their identity since they took an effort to organized their operations based on innovative and costly technology for the sake of CSR and responsible consumption.

Customer concerns on product safety and its ethical origin, and difficulty of monitoring quality of product and sellers (especially during online shopping) stimulated companies not only to turn to fair trade initiatives, but to seek more complete transparency in order to gain customer's trust. One of the most sensitive sector with regard of product origin is diamond industry, which have catalyzed slavery and violence in war-torn African nations. In 2002, the United Nations General Assembly pioneered a process to authenticate diamonds and declare them conflict-free. With this perspective, De Beers (world's largest diamond producer) prepared to launch a blockchain-based tracking system, which will enable tracking gems from the moment they're excavated. The technology can verify a diamond's purity and ensure ethical origin from a non-conflict zone (O'Brien, 2019).

Food and clothing has been traditionally viewed as two sectors, sensitive to both, quality and responsible consumption, especially fair trade. With this regard, for example, Walmart and several other retailers launched an IBM blockchain platform to track 25 types of food products, including a selection of berries, chicken and milk.

The company acknowledge that while quality of food must be unconventional, building consumer trust corporate credibility is an important consequence of these efforts (Bhattacharyya, 2018).

Still, despite the fact that blockchain is largely perceived as a secure and trustworthy system, it is still at the infancy stage of its development and remains subject to considerable limitations and threats, especially with regard of above-mentioned elements of corporate identity strategy.

First of all, ensuring the quality of initial information at the input stage and timely detection of possible errors is a challenge on its own. Second, while promising extra cyber security, it is not immune to various cyber-attacks itself. Blockchain security partly depends on the strength and robustness of the cryptographic primitives used to conduct transactions and maintain a detailed history of past activity. Moreover, hackers can attack the blockchain network with what is known as Identity attack by trying to compromise blockchain users' identity. Usually they try to intervene in communication between users, impersonalize legitimate users or create a large number of fake users controlled by a single party in order to gain access to certain transactions (Dasgupta et al, 2019). And third, blockchain's tracking system is rather challenging to be implemented on practice, such as embedding tracking devices in physical goods at a large scale across complex multinational supply chain.

Conclusions.

Being commonly perceived as a more secure, private, cost efficient and fast technology, blockchain peer-to-peer network has potential to reduce costs, make lives of customers and employees easier, and open new business opportunities. Despite the fact that such approach is still to pass the test of time and issues of implementing blockchain into companies' operations remains rather controversial, it is unlikely to impose any danger on those who disrupt from within and integrate innovative technology in their very corporate identity.

Such companies, small as they can be, have a great potential to lead the revolution. After all, Uber was not invented by General Motors, Paypal - by Mastercard or Airbnb - by Hilton.

It is essential to keep in mind, that new technological system should by no means resemble separate injections. On the contrary, it should be treated as a strategy integrated into the very core of corporate functioning. Only such integrity approach will bare desirable results worth the effort. Once the decision has been made, responsible parties should ensure its smooth internal implementation, making sure personnel have enough expertise and motivation to deal with new technology and be thorough and conscientious regarding the data they input. If regulated and synchronized correctly, blockchain is potentially able to deal with fairly consolidated projects.

Next decade promises to introduce the new era of smart networks, where blockchain and artificial intelligence would work side-by-side. But fancy as it sounds, in order to preserve our own identity as a human race, we should not neglect risks coming with mass digitalization and robotic automation.

References.

Abratt, R. and Mingione, M. (2017) *"Corporate Identity, Strategy and Change"*. Journal of Brand Management, Vol. 24, Issue 2.

Albert, S. and Whetten, D. (1985), "*Organizational identity*", in Cummings, LL. and Staw, B.M. (Eds), Research in Organizational Behavior, JAI Press, CT, Vol. 7, pp. 263-295.

Ashforth, B.E. and Mael, F.E. (1989), "*Social identity theory and the organization*", The Academy of Management Review, Vol. 14 No. 1, pp. 20-39.

Balmer, J.M.T. (2017) "*The corporate identity, total corporate communications, stakeholders' attributed identities, identifications and behaviours continuum*", European Journal of Marketing, Vol. 51 Issue: 9/10, pp.1472-1502.

Bhattacharyya, S. (2018) "Brands are using blockchain to promote sustainable products".

Boukis, A. and Magrizos, S. (2018) *"Managing brands in the blockchain era"*

Carson, B., Romanelli, G., Walsh, P., Zhumaev, A. (2018) "*Blockchain beyond the hype: What is the strategic business value?"* McKinsey & Company Report.

Cornelissen, J.P. (2002) "*On the "organizational identity" metaphor*". British Journal of Management, 13, 259–268.

Cornelissen, J.P., Haslam, S.A. and Balmer, J.M.T. (2007). *Social identity, organizational identity and corporate identity: towards an integrated understanding of processes, patternings and products*, British Journal of Management, 18 (1), pp. 1-16.

Crypto Fund Research (2018) "Top 50 Venture Capital Firms Investing in Blockchain Companies".

Dasgupta, D., Shrein, J.M., Gupta, K.D. (2019). *A survey of Blockchain from Security Perspective,* Journal of Banking and Financial Technology.

Dukerich, J.M., Kramer, R. and McLean-Parks, J. (1998), "*The dark side of organizational identification*" in Whetten, D. and Godfrey, P.C. (Eds), Identity in Organizations: Building Theory Through Conversations, Sage, Thousand Oaks, CA, pp. 245-267.

Emem, M. (2019) *"PayPal Skips Bitcoin While 'Clearly Working on Blockchain and Cryptocurrency'"* CNN Crypto, FinTech News.

Ertemel, A.V. (2018) "*Implications of Blockchain Technology on Marketing*" Journal of International Trade, Logistics and Law*,* Vol. 4, Num. 2, 2018, 35-44

Gioia, D.A., Schultz, M. and Corley, K.G. (2000), "*Organizational identity, image, and adaptive instability*", Academy of Management Review, Vol. 25 No. 1, pp. 63-81.

He, H.-W. and Balmer, J.M.T. (2007), "*Identity studies: multiple perspectives and implications for corporate-level marketing*", European Journal of Marketing, 41(7/8), 765-785.

He, H.-W. and Balmer, J.M.T. (2007), "*Perceived corporate identity/strategy dissonance: triggers and managerial responses*", Journal of General Management, 33(1), 71-91.

He, H.-W. and Balmer, J.M.T. (2013), "*A grounded theory of the corporate identity and corporate strategy dynamic: a corporate marketing perspective*", European Journal of Marketing, Vol. 47 Nos 3/4, pp. 401-443.

Hogg, M.A., & Terry, D.J. (2000) "*Social identity and self-categorization processes in organizational contexts",* The Academy of Management Review, 25(1), 121-140.

Koval V. (2017). Competitive policy and regulation of oligopolistic markets with network effect. Zeszyty Naukowe Państwowej Wyższej Szkoły Techniczno-Ekonomicznej im. ks. Bronisława Markiewicza w Jarosławiu. Współczesne Problemy Zarządzania, 11, 143-162.

Koval V. (2018). Investment and capitalization of assets in the management of economic development. Eastern European studies: economics, education and law: Proceedings of the International Scientific Conference. Volume I. Burgas, 98-100.

Margulies, W.P. (1977), "*Make the most of your corporate identity*", Harvard Business Review, Vol. 55 No. 4, pp. 66-72.

Muneeza, A. , Arshad, N.A., Arifin, A.T. (2018) "*The Application of Blockchain Technology in Crowdfunding: Towards Financial Inclusion via Technology*" International Journal of Management and Applied Research, 5 (2), pp. 82-98.

Nakamoto, S. (2008) "*Bitcoin: A Peer-To-Peer Electronic Cash System*". Available at: http://bitcoin.org (Accessed on 09.01.2019).

NewsBTC (2019) "Top 3 Blockchain-Based Companies Making a Difference in The Gaming Space".

O'Brien, M. (2018) "Brands and blockchain: How Walmart, Burger King and De Beers are snuggling up to decentralization".

Schrier, D., Sharma, D., Pentland, A. (2016) "*Blockchain & Financial Services: The Fifth Horizon of Networked Innovation*". Massachusetts Institute of Technology: White Paper Experts.

Tagiuri, R. (1982), "*Managing corporate identity: the role of top management*", Harvard Business School Working Paper Series, Harvard Business School. No: HBS 82-68.

World Economic Forum (2015) "Deep shift: Technology tipping points and societal impact".

SUSTAINABLE DEVELOPMENT UNDER THE CONDITIONS OF EUROPEAN INTEGRATION

Collective monograph

Part II

Publisher:
Ljubljana School of Business
Tržaška cesta 42, 1000 Ljubljana
info@vspv.si

Ljubljana 2019

Circulation 50 copies, free publication